PB-230 553

POLLUTION OF LAKE MICHIGAN AND ITS TRIBUTARY BASIN. PROCEEDINGS OF CONFERENCE, SESSION (3rd) HELD AT CHICAGO, ILLINOIS, ON MAY 7, 1970. VOLUME 3. EXECUTIVE SESSION. TRANSCRIPT OF CONFERENCE

Federal Water Quality Administration
Washington, D.C.

7 May 1970

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PB 230 553

EXECUTIVE SESSION

FOR THE THIRD SESSION
OF THE

CONFERENCE

IN THE MATTER OF POLLUTION OF LAKE MICHIGAN AND ITS TRIBUTARY BASIN IN THE STATES OF WISCONSIN, ILLINOIS, INDIANA, AND MICHIGAN

held in

Chicago, Illinois

May 7, 1970

TRANSCRIPT OF PROCEEDINGS

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The report for

The Executive Session for the Third Conference on ~~the matter of~~ pollution of Lake Michigan and its tributary basin in the States of Wisconsin, Illinois, Indiana, and Michigan, convened at 9:30 o'clock on May 7th, 1970, ~~at~~ the Sheraton-Blackstone Hotel, Chicago, Illinois. includes statements, discussions and recommendations on: water quality criteria to stop polluting; coliform evaluation; waste water sources affecting Lake Michigan water quality; and related information

PRESIDING:

Mr. Murray Stein
Assistant Commissioner for Enforcement
and Standards Compliance
Federal Water Quality Administration
U. S. Department of the Interior
Washington, D. C.

CONFEREES:

Francis T. Mayo
Regional Director, Great Lakes Region
Federal Water Quality Administration
U. S. Department of the Interior
Chicago, Illinois

Thomas G. Frangos
Director, Bureau of Water Resources
Wisconsin Department of Natural Resources
Madison, Wisconsin

Clarence W. Klassen
Technical Secretary
Illinois Sanitary Water Board
Springfield, Illinois

Blucher A. Poole
Technical Secretary
Indiana Stream Pollution Control Board
Indianapolis, Indiana

CONFEREES (Continued):

Ralph W. Purdy
Executive Secretary
Michigan Water Resources Commission
Lansing, Michigan

AIDES TO ABOVE:

Carlos Fetterolf
Supervisor, Water Quality Appraisal
Water Resources Commission
Michigan Department of Natural Resources
Lansing, Michigan

Francis B. Frost
Chief Engineer
Michigan Water Resources Commission
Lansing, Michigan

Benn Leland
Illinois Sanitary Water Board
Chicago, Illinois

Donald Mackie
Executive Assistant
Wisconsin Department of Natural Resources
Madison, Wisconsin

Perry E. Miller
Director of Bureau of Engineering
Indiana State Board of Health
Indianapolis, Indiana

D. B. Morton
Sanitary Engineer
Illinois Sanitary Water Board
Springfield, Illinois

PARTICIPANTS:

Lawrence S. Bloom
Commission Counsel
Lake Michigan & Adjoining
Land Study Commission
Chicago, Illinois

PARTICIPANTS (Continued):

Paul Booth
Temporary Chairman
Campaign Against Pollution
Chicago, Illinois

Mrs. Lee Botts
Director, Environmental Education
Open Lands Project
Chicago, Illinois

Mrs. Eileen L. Johnston
League of Women Voters
Wilmette, Illinois

Joseph Karaganis
Businessmen for the Public Interest
Chicago, Illinois

Harold A. Katz
State Representative
Illinois House of Representatives
Chicago, Illinois

Erling H. Lunde
Vol. Administrator
Citizens of Greater Chicago
Chicago, Illinois

Matthew May
Campaign Against Pollution
Chicago, Illinois

Abner J. Mikva
United States Representative
State of Illinois

Janis Nash
Chairman
Society To Stop Pollution
Chicago, Illinois

PARTICIPANTS (Continued):

Arthur Pancoe
Scientific Director
Society Against Violence
to the Environment
Glencoe, Illinois

Catherine T. Quigg
Barrington, Illinois

Walter Zepiel
Campaign Against Pollution
Chicago, Illinois

- - -

ATTENDEES:

Anne Alberts, Delegate
Campaign Against Pollution
5357 South Rugherford
Chicago, Ill.

Norman Lee Banner, Jr.
Co-Ordinator, North
Campaign Against Pollution
1359 Estes
Chicago, Ill. 60626

Arlene Beatty
Campaing Against Pollution
833 West Buena Avenue
Chicago, Ill.

L. A. Beaudin
Chief Construction Operations Div.
U.S. Army Engineer Division
North Central
536 South Clark Street
Chicago, Ill. 60605

Maurice Bender
Industrial Bio-Test
1800 Frontage Road
Northbrook, Ill. 60062

Lawrence S. Bloom
Commission Counsel
Lake Michigan & Adjoining
Land Study Commission
1307 East 60th Street
Chicago, Ill. 60637

Paul Booth
Temporary Chairman
Campaign Against Pollution
65 East Huron
Chicago, Ill.

Mrs. Russell Bonynge, Jr.
League of Women Voters
Lake Michigan Inter-League Group
1120 Chestnut
Wilmette, Ill. 60091

Urban W. Brocsch
Detroit District Corps of Engineers
Detroit, Mich.

Lee Botts, Director
Environmental Education
Open Lands Project
53 West Jackson
Chicago, Ill.

Leah Bowman
616 Deming
Chicago, Ill. 60614

Terry Briggs
SAVE
9006 Senate Drive
Des Plaines, Ill.

Enrico F. Conti
Assistant to Manager
U.S. Atomic Energy Commission
Argonne, Ill.

Carol Cowgill
University of Chicago
Environmental Law Society
1414 East 59th Street
Chicago, Ill. 60637

David P. Currie
Ill. Coordinator of Environmental
Quality
160 North LaSalle Street, Rm. 1100
Chicago, Ill.

Walter S. Czepiel, Agent
Metropolitan Life Ins. Co.
4370 West 26th Street
Chicago, Ill. 60623

Quincy Dadisman, Reporter
Milwaukee Sentinel
10817 North San Marino Drive
Mequon, Wisc. 50392

ATTENDEES CONT:

Gail Donovan
Campaign Against Pollution
1661 Highland
Northbrook, Ill. 60062

Hazel M. Doss
Campaign Against Pollution
833 West Beuna, Apr. 609
Chicago, Ill.

Charles W. Dougherty
State Program Grants Specialist
USDI, FWQA, OE&CP
33 E. Congress Parkway, Rm. 410
Chicago, Ill. 60605

Rev. Leonard Dubi, Co-Chairman
Campaign Against Pollution
5400 South Nashville
Chicago, Ill.

Joseph Dvorak
Campaign Against Pollution
836 Alcoa
Melrose Park, Ill. 60164

John R. Dyer, Supervisor
Consumers Power Company
212 West Michigan
Jackson, Mich.

Lawrence A. Ernest
Sewerage Commission of City
of Milwaukee
P. O. Box 2079
Milwaukee, Wisc. 53201

Robert Fermanis
CAP-SAVE
789 Deerfield Road
Highland Park, Ill. 60035

Carlos Fetterolf, Supervisor
Water Quality Appraisal
Water Resources Commission
Michigan Dept. of Natural Resources
Mason Building
Lansing, Mich. 48926

A. William Finke, Attorney
Wisconsin Electric Power Co.
231 W. Michigan Street
Milwaukee, Wisc.

Herbert J. Fisher
Aquatic Biologist
FWQA
1819 West Pershing Road
Chicago, Ill.

Francis B. Frost
Chief Engineer
Michigan Water Resources Comm.
Lansing, Mich.

M. B. Gamet, Chief
Federal Activities Coord. Br.
FWQA
33 E. Congress Pkwy., Rm. 410
Chicago, Ill. 60605

Walter Ginsburg
Water Bacteriologist IV
Chicago Bureau of Water
1000 East Ohio Street
Chicago, Ill.

Walter A. Gregory
Campaign Against Pollution
5309 South New England
Chicago, Ill.

William J. Harth
Fish Conservation Supervisor
Ill. Dept. of Conservation
State Office Building
Springfield, Ill. 62706

ATTENDEES CONT:

V. Stevens Hastings
Commonwealth Edison
1 First National Bank Plaza
Chicago, Ill.

Paul G. Hayes
Reporter
Milwaukee Journal
Journal Square
Milwaukee, Wisc. 53201

Constance Herman
Ill. Federation of Sportsmen's
Clubs
3735 Morton Avenue
Brookfield, Ill. 60513

David W. Hickey, Shareholder
Campaign Against Pollution
7441 North Washtenan Avenue
Chicago, Ill.

Shelly Hickey
Society To Outlaw Pollution
7441 North Washtenan
Chicago, Ill.

John Hogan
Environmental Editor
WGN
Chicago, Ill.

J. B. Holleyman
Physical Scientist
FWQA, Great Lakes Regional
Office
33 E. Congress Pkwy., Rm. 410
Chicago, Ill. 60605

Mike Hoskinson
Campaign Against Pollution
3010 Derrough Avenue
Melrose Park, Ill. 60164

Dorothy J. Howell, Microbiologist
Metropolitan Sanitary District
Erie Street
Chicago, Ill.

John Iberle
Campaign Against Pollution
1653 West Grace
Chicago, Ill. 60613

James W. Jardine
Commissioner Water & Sewers
City of Chicago
Room 403 - City Hall
Chicago, Ill. 60602

Eileen L. Johnston
League of Women Voters
505 Maple Avenue
Wilmette, Ill. 60091

Mrs. Paul Kaefer
Campaign Against Pollution
3921 Oak
Northbrook, Ill.

Mrs. Louis Kaplah
528 South Edsoh Avenue
Lombard, Ill. 60148

Rona Kiener
Campaign Against Pollution
2245 North Halsted
Chicago, Ill. 60614

Raymond J. Kipp
Chairman C.E. Dept. Marquette Univ.
Metropolitan Sewerage Comm.
1515 West Wisconsin Avenue
Milwaukee, Wisc. 53226

Clarence W. Klassen
Technical Secretary
Illinois Sanitary Water Board
535 Jefferson Street
Springfield, Ill. 62706

Lawrence S. Kolczah, Sanitarian
Ill. Dept. of Public Health
1919 West Taylor
Chicago, Ill.

ATTENDEES CONT:

Thomas Kroehn
District Director
Dept. of Natural Resources
State of Wisconsin
9203 West Bluemound Road
Milwaukee, Wisc. 53226

Judy Kulstad
Reporter - Press
The Associated Press
188 West Randolph Street
Chicago, Ill.

John K. Langum, President
Business Economics, Inc.
209 South LaSalle Street
Chicago, Ill. 60604

Clarence Laskowski
Sanitary Engineer
Hqs. Fifth U.S. Army
DLSLOG Engineering Div.
Ft. Sheridan, Ill. 60037

Ray D. Leary
Chief Engineer & General Manager
Milwaukee Metropolitan Sewerage
Commission
P. O. Box 2079
Milwaukee, Wisc.

Kenneth Lehner
Superintendent of Chemical Services
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, Wisc.

Benn J. Leland, Engineer-in-Charge
Chicago Office
Ill. Sanitary Water Board
1919 West Taylor Street
Chicago, Ill. 60612

Nancy LeVant
Campaign Against Pollution
2501 Morse
Chicago, Ill. 60645

Roscoe W. Libby, Chief
Technical Activities Branc-
USDI, FWQA, LMBO
1819 West Pershing Road
Chicago, Ill. 60609

Mrs. Alan Lunak
Mid-North Environmental Committee
424 W. Belden
Chicago, Ill.

Erling H. Lunde
Vol. Administrator
Citizens of Greater Chicago
18 South Michigan Avenue
Chicago, Ill. 60603

D. T. Lundy, Partner
Alvoro, Burdick & Howson
Room 1401 - 20 North Wacker Drive
Chicago, Ill.

Jerome R. McKersie, Engineer
Wisconsin Dept. of Natural
Resources
P. O. Box 450
Madison, Wisc.

Eleanor McNicholas
5614 South Nagle Avenue
Chicago, Ill. 60638

Matthew Max
Campaign Against Pollution
5122 South Newcastle
Chicago, Ill. 60638

Stephen Megregian
Wapora, Inc.
1725 DeSales Street
Washington, D.C. 20036

Helen Miller
Society To Outlaw Pollution
5701 North Sheridan Road
Chicago, Ill.

D. B. Morton, Sanitary Engineer
Ill. Sanitary Water Board
535 West Jefferson Street
Springfield, Ill. 62706

ATTENDEES CONT:

Sheri Mount
Campaign Against Pollution
5119 North Christiana
Chicago, Ill.

Shirley Murray
Campaign Against Pollution
2013 Redwood
Northbrook, Ill. 60062

Janice Nash, Chairman
Society To Stop Pollution
7064 North Greenview
Chicago, Ill. 60626

Charles E. Olmsted
Professor of Biology
Department of Biology
University of Chicago
Chicago, Ill. 60637

Cynthia Olson
Campaign Against Pollution
10812 Wentworth
Chicago, Ill.

Debbie Olson
Campaign Against Pollution
11121 South Vernon
Chicago, Ill. 60628

Richard A. Pavia
Deputy Commissioner of Water
and Sewers
Room 403 - City Hall
Chicago, Ill.

Lynn Pekkanen
Citizens Against Pollution
439 West Oakdale
Chicago, Ill. 60657

C. Pemberton, Director
Office of Technical Programs
USDI, FWQA, GLR
33 E. Congress Parkwey, Rm. 410
Chicago, Ill. 60605

Frances M. Polk
Campaign Against Pollution
5620 South Rutherford
Chicago, Ill.

M. Portnoy
Campaign Against Pollution

Ralph W. Purdy
Executive Secretary
Michigan Water Resources Comm.
Lansing, Mich.

Catherine T. Quigg
838 Harriet Lane
Barrington, Ill.

Virginia H. Rankin
Court Reporter
Kansas City, Mo.

Philip A. Reed
Technical Assistant to Engineer
of Water Purification
Water Bureau of Chicago
1000 East Ohio Street
Chicago, Ill. 60611

Clifford Risley, Jr., Director
Research & Development
USDI, FWQA, GLR
33 E. Congress Pkwy., Rm. 410
Chicago, Ill. 60605

Victoria Ruez
1937 North Cleveland
Chicago, Ill. 60604

ATTENDEES CONT:

J. Sacks
900 North Lake Shore Drive
Chicago, Ill. 60611

Helen Sala
Campaign Against Pollution
5541 South Oak Park Avenue
Chicago, Ill.

LeRoy E. Scarce, Chief
Laboratory Services Branch
USDI, FWQA, LMBO
1819 West Pershing Road
Chicago, Ill. 60609

Robert Schacht, Sanitarian
Ill. Dept. of Public Health, SWB
1919 West Taylor Street
Chicago, Ill.

Robert A. Schacht
Aquatic Biologist
Ill. Sanitary Water Board
5623 St. Charles Road
Berkeley, Ill. 60163

Gary W. Scherzel
Water Resources Planner
USDI, FWQA, GLRO
33 East Congress Pkwy., Rm. 410
Chicago, Ill. 60605

William G. Schmeelk, Senior Biologist
Metropolitan Sanitary District
of Greater Chicago
100 East Erie Street
Chicago, Ill.

Jean Sinsko
Campaign Against Pollution
5350 South Narrogonsett
Chicago, Ill.

Alan D. Sugarman
Ill. Office Coordinator
of Environmental Quality
5421 South Cornell Avenue
Chicago, Ill.

Fred O. Sullivan
Sanitary Engineer
U.S. Army Corps of Engineers
219 South Dearborn Street
Chicago, Ill. 60604

Michael J. Sullivan
Southwest Community Council
5736 South Western
Chicago, Ill.

Raynor Sturgis, Director
General Services Department
State of Illinois
Springfield, Ill.

Mrs. Robert B. (Ladonna) Taylor
Campaign Against Pollution
2415 North Geneva Terr.
Chicago, Ill. 60614

John V. Tokar
Argonne National Laboratory
9700 South Cass Avenue
Argonne, Ill. 60439

Dennis W. Valentine
Sanitary Engineer
Northwestern University
819 Foster Street
Evanston, Ill.

J. F. Voita
229 North Taylor Avenue
Oak Park, Ill.

Ralph Weaver
Pioneer Service & Engineering Co.
2 North Riverside Plaza
Chicago, Ill.

Rita T. Werner
Campaign Against Pollution
5835 South Rutherford
Chicago, Ill. 60638

Roger S. Whitworth, Chemist
USDI, FWQA, GLRO
Off. of Enforcement & Coop.
Programs
33 E. Congress Pkwy., Rm. 410
Chicago, Ill. 60605

ATTENDEES CONT:

Christopher G. Wickstrom
Univeristy of Chicago
Room 215
1005 East 60th Street
Chicago, Ill. 60637

B. F. Willey, Director
Water Purification Laboratory
City of Chicago
1000 East Erie Street
Chicago, Ill. 60611

Darwin E. Williams
Management Assistant
National Park Service
Indiana Dunes National Lakeshore
P. O. Box 12
Chesterton, Ind. 46304

Theodore F. Wisniewski
Ass't. to Administrator DEP
Wisc. Department of Natural
  Resources
P. O. Box 450
Madison, Wisc. 53702

Howard Zar
Physical Scientist
USDI, FWQA, GLR
Lake Michigan Basin Office
1819 West Pershing Road
Chicago, Ill. 60609

PROCEEDINGS

OPENING STATEMENT
BY
MR. MURRAY STEIN

MR. STEIN: The conference is open.

This Executive Session for the Third Session of the conference in the matter of pollution of Lake Michigan and its tributary basin in the States of Wisconsin, Illinois, Indiana, and Michigan is being held under the provisions of Section 10 of the Federal Water Pollution Control Act. The Third Session first met on March 31 and April 1, 1970.

Under the provisions of the Act, the Secretary of the Interior is authorized to initiate a conference of this type when requested to do so by a Governor of a State and when, on the basis of reports, surveys, or studies, he has reason to believe that pollution subject to abatement under the Federal Act is occurring.

As specified in Section 10 of the Act, the Secretary of the Interior has notified the official State water pollution control agencies of this conference.

These agencies are the Wisconsin Department of Natural Resources, the Illinois State Sanitary Water Board, the Indiana Stream Pollution Control Board, and the Michigan Water Resources Commission.

The purpose of the conference is to bring together the State water pollution control agencies, representatives of the United States Department of the Interior, and other interested parties to review the existing situation, the progress which has been made, and to lay a basis for future action by all parties concerned, and to give the States, localities and industries an opportunity to take any indicated remedial action under State and local law.

Now a word about procedures and the parties to the conference. The parties to the conference are the official State water pollution control agencies and the United States Department of the Interior. Only the representatives of the State agencies and the United States Department of the Interior constitute the conferees as provided by Federal law.

A word about the procedures governing the conduct of this Executive Session. The conferees will consider the problems of temperature, the establishment of interim dates, specifically for all the dischargers into Lake Michigan, and other appropriate recommendations that the conferees may wish to bring up.

We shall have a discussion among the conferees and try to arrive at a basis of agreement on the facts of the situation. Then if possible we shall attempt to summarize the conference orally, giving the conferees, of course, the right to amend or modify the summary. Of course any of you,after the conference or during the break,are free to talk to any of the conferees or for any statements which the conferees may wish to make.

We are making a verbatim transcript report of the conference and this is being made by Mrs. Virginia Rankin. It usually takes about three or four months for the transcript to come out in printed form. If you wish the record beforehand, you can make your own arrangements with Mrs. Rankin, who is an independent contractor, and you can get the copy of this transcript.

This transcript will be made available through your State water pollution control agencies, as will the summary of the Executive Session, and if you wish copies of that you can make your arrangements with the State agencies to get this information.

I would like to ask that the conferees representing the various States around the table introduce themselves, maybe start on the left with Mr. Purdy.

MR. PURDY: Ralph Purdy, Michigan Water Resources Commission.

MR. FRANGOS: Tom Frangos, Wisconsin Department of Natural Resources.

MR. MACKIE: Donald Mackie, Wisconsin Department of Natural Resources.

MR. KLASSEN: I am Clarence Klassen, representing the Illinois Sanitary Water Board.

MR. POOLE: I am Blucher Poole, representing the Indiana Stream Pollution Control Board, and this is Perry Miller, my brains, on my left.

MR. KLASSEN: I want to also introduce in the same category Douglas Morton, who is Chief of our Water Pollution Control Bureau.

MR. MAYO: Francis Mayo, Regional Director for the Great Lakes Region of the Federal Water Quality Administration. On my right is Mr. Jake Dumelle, the

Chief of our Lake Michigan Basin Office.

MR. STEIN: My name is Murray Stein and I have been designated by Secretary Walter J. Hickel as the Chairman of the conference and his representative.

You know, when we deal with the environment everything has something bad about it, even the brains you talk about. I understand that's high in cholesterol. (Laughter.)

Before we begin, I have a policy position on thermal pollution which has been developed by Carl Klein, Assistant Secretary for Water Quality and Research, and Leslie Glasgow, Assistant Secretary for Fish and Wildlife and Parks, both of the Department of the Interior, which they have asked me to read. This is a very short statement.

"The minimum possible waste heat shall be added to the waters of Lake Michigan. In no event will heat discharges be permitted to exceed a one degree Fahrenheit rise. This will preclude the need for mixing zones."

We will give the conferees an opportunity as the conference proceeds to comment on this if they wish and on other matters.

Before we start to hear from the conferees, we have had a request from representatives for the Campaign Against Pollution to make a statement to the conferees. We would like to call on that representative now.

PAUL BOOTH

TEMPORARY CHAIRMAN

CAMPAIGN AGAINST POLLUTION

CHICAGO, ILLINOIS

MR. BOOTH: My name is Paul Booth. I am the Temporary Chairman of the Campaign Against Pollution and I represent them here.

Gentlemen, first we believe that this should have been a public session. We believe there should have been a public session for Chicagoians prior to your determination. It is only our persistence that at least got us the possibility of making this statement before you begin your executive meeting. We don't believe it was fair to have asked us by implication to have traveled 40 miles or 80 miles to attend public hearings on this important matter.

Now, number 2. The Campaign Against Pollution puts you on notice that only zero pollution standards will be acceptable to us with tough penalties. Furthermore, we don't believe that this construction that is going on now at Zion in terms of the Commonwealth Edison Company and other units, soon to be 10 units in place around Lake Michigan at 7 places of nuclear plants discharging heat wastes into Lake Michigan, we don't believe that makes any sense at all. We believe you have the influence through your standards setting today to force the construction to halt at those installations. We don't believe the temporary permit under which Zion is being constructed should ever have been issued and we want to point out again the matter of public hearings. We don't believe it would have happened had it been preceded with a public hearing.

That is to say, today's decision sets a precedent because we know that most of the new electric generation is going to be through nuclear installations and the 10 announced units are only the beginning. Therefore, zero pollution standards should be set at the outset, not after the damage is done.

Now, for the benefit of Mr. Mayo, whose comments on pyrotechnics we have read in the newspapers, we don't believe that what we are doing here today is pyrotechnics at all. We believe simply it is a matter of expressing the concern of the people and that this opportunity should have been made available not simply to us but to all the people of the Chicago area.

Just to repeat, it is zero pollution standards that we are after and that are the only kind of standards that are acceptable without loopholes and with tough penalties. Otherwise we have great fears for the future of the lake. We know that there is incredible scientific evidence that gives rise to the doubt as to the safety of the lake and of our recreation and drinking facilities if these heat waves are not prohibited.

Thank you. (Applause.)

MR. STEIN: Thank you, Mr. Booth, for your statement. I am sure we can all learn from you as we can all learn from participating in orderly proceedings.

As I see it, the statement you have made on thermal pollution and the statement of the Assistant

Secretary are very close.

MR. KLASSEN: Could I just ask for clarification, Mr. Chairman?

MR. STEIN: Yes.

MR. KLASSEN: I would like to know whether this statement made applies only to power sources or whether this statement of no pollution applies to all industries and cities. This is purely for clarification.

MR. STEIN: It is my understanding--and I ask you to look at that, consider that preface carefully--it is my understanding that this statement applies to all sources whether they be municipalities, industries or power sources.

MR. KLASSEN: In other words, there is no industrial discharge, no effluent from any municipal sewage treatment plant or any other discharge going into Lake Michigan? If this is what the statement is implying, I think that we all ought to understand this.

MR. STEIN: I think the statement does more than imply that, Mr. Klassen, it says it. As far as I am concerned, I don't see any difference; maybe there is a difference, between heat supplied by an industrial discharge other than a powerplant or a municipal discharge or a powerplant.

MR. KLASSEN: Could you ask the witness to confirm your interpretation, just so we hear it from him?

MR. STEIN: Mr. Booth, do you want to comment? Is this what you mean too?

MR. BOOTH: Yes, indeed, we are opposed to all these heat wastes. We think the question for you, however, Mr. Klassen, is why that temporary permit for the construction of Zion is going on. Yes, we are opposed to the other ones.

MR. KLASSEN: I didn't issue that permit, and let's get the record straight. That permit was issued by the Department of Public Works,and we have under consideration an application for a permit;and I have stated publicly before any action on that permit is taken we will hold a public hearing. Let's get the record straight.

MR. STEIN: Pardon me. I would like to make an amendment here. I may have left a phrase out.

The second sentence should have read in that statement, "In no event will heat discharges be permitted to exceed a one degree Fahrenheit rise at the point of discharge," which makes it even more restrictive.

Let me read the whole thing again so we are pretty sure of what this means:

"The minimum possible waste heat shall be added to the waters of Lake Michigan. In no event will heat discharges be permitted to exceed one degree Fahrenheit rise over ambient at the point of discharge. This will preclude the need for mixing zones."

MR. POOLE: Have you got a typewriter available?

MR. STEIN: We will get one for you, sir, and get this copied for you, Mr. Poole.

The last phrases I read nailed this down from a technical point of view, but this is the point of what I made when I first read that statement.

MR. KLASSEN: This is a most important statement by a group. We recognize this.

I might say for the benefit of that group and everyone here, there is an Illinois Supreme Court decision that has been rendered since 1934 in the case of Barrington versus the Barrington Hills Country Club that says this same thing. It has never been recognized by anyone, even though it is a Supreme Court decision, because this would give the municipalities two alternatives--either to disconnect everybody from the sewer system or to treat the water and put it into the drinking water lines. Now, these are two alternatives. We could be coming to this.

The other point, and it is so important that I would like to have the record show who this man represents, the names of the organizations and his authorization for making this statement. I don't quarrel with this, but I think this is so important that we ought to know on the record officially who is making this statement and if he is making it for an organization who the members of the organization are and his authorization from that organization to make this statement.

I am not quarreling with the statement at all, but I think this is extremely important. It is a turning point in the whole concept of waste treatment and I think that if we are going to have this on the record we have got to know who is making this statement because it is extremely important.

MR. STEIN: Mr. Booth, you will be given an opportunity to respond to Mr. Klassen if you wish.

MR. BOOTH: Campaign Against Pollution represents thousands of citizens in the Chicago area, several dozen of whom are here today, civic associations, churches of all faiths, community organizations, many other forms of associations that the people have gathered into in order to fight pollution in all its forms.

MR. KLASSEN: No, that isn't what I have asked for. I know this group, we have worked with them. I think for the record it should name the organizations, name the churches, name the groups, so that we know.

VOICES FROM THE AUDIENCE: Aaah!

MR. KLASSEN: Yes, this is extremely important policy to the State of Illinois.

MR. STEIN: Pardon me, gentlemen. I know we have proceeded this far. Let's see, I think if we are going to work this out and we have some real tough substantive problems--

MR. KLASSEN: We want to know--

MR. STEIN: Just a moment. I think the prerequisite for working this out is an orderly proceeding.

Now, I think again we are here and let me give you the ground rules. No one is testifying under oath.

MR. KLASSEN: Right, O. K.

MR. STEIN: No one has to answer any questions. But any of the conferees certainly can ask what the conferees consider pertinent questions. If you don't want to respond to these questions, I think the record will be very clear from any way you want to make it. But please, let's try and have an orderly proceeding in an orderly way.

MR. BOOTH: We have nothing to hide. We will be glad to submit a very long list of the organizations which are affiliated in the Campaign Against Pollution.

MR. KLASSEN: That is all we want.

MRS. BOTTS: Mr. Stein, I am Mrs. Botts from the Open Lands Project and I wish to object to what has just taken place here. I wrote to Mr. Klassen two weeks ago and inquired whether the public would be allowed to participate in this procedure. He referred the letter to you and I received a letter from you saying that this was an Executive Session in which public representatives would not be allowed to participate. There are many other organizations that would have liked to participate in this meeting today but we were trying to observe the orderly procedure which you described.

I don't understand why this exception has been made. This is not a disagreement with what Mr. Booth has said, but there are other organizations in all four States who would have been present here today to make a statement.

MR. STEIN: In an Executive Session we do not in our regular procedure--

We gave full opportunity in our three previous public conferences for citizens groups who were here and other groups--

MRS. BOTTS: That still doesn't--

MR. STEIN: Just one moment. Will you listen? I waited for you to finish.

The Executive Session does not have people participating under the rules.

Now, however, when we got to the Executive Session our policy has been that if someone at that time felt that they had a compelling need to make a statement, even under these rules, we are operating in a free society and we were glad to avail the opportunity to the Campaign Against Pollution to do so. If you want to make a statement, and feel that you have to make one here, the podium is open to you.

MRS. BOTTS: The statement I will make at this time is that I think the violation of the rules which this conference set up which was communicated to me in writing casts some doubt on the credibility of the procedures of this conference. I represent an organization that tried to observe the rules, to observe the procedures, and to have them violated in this way on this ground undermines our capacity to continue to participate in this orderly procedure, so called.

Thank you.

MR. STEIN: Thank you.

Again may I suggest to the people out there, and I hope you will listen to this, in dealing with pollution problems, as I have said many times, we are faced with a horrible environmental hazard that is hanging over our heads. We all have to get together and work this out and extend a hand to each other. If we get into tangential or peripheral issues to raise questions of Federal rights, State rights, economic rights, industrial rights, the environment is not going to know this and we are going to have a worsening environment.

If we can get into the battle over procedural instead of substantive problems, you will have to make your own judgment whether you are furthering the cause of the battle against pollution.

MR. KLASSEN: I just want to say, though, Mr. Chairman, Mrs. Botts has a very valid point. (Applause.)

If we are going to open this up to one group-- and this is my only reason for wanting to know who this other group was--if we are going to open it up for one group, we ought to let everybody testify that wants to testify. I have always been, and people know that here, in favor of letting the public give their views and help make decisions.

Now, if one group is permitted to testify, which they have, fine, we want their input. There are many other groups that have written to me wanting to testify, I have referred them to you for the ground rules, and I just want to say as one conferee, Mrs. Botts has a very good point and I believe it is a valid one.

REV. LEONARD DUBI: Mr. Stein.

MR. STEIN: Yes.

REV. LEONARD DUBI: I am from the Campaign Against Pollution. We took pains to try to have this Executive Session transformed into a public hearing. We were in communication with Mr. Mayo. I delivered a letter personally to him. He told me through his secretary that he was in communication with you.

We feel that this is a responsibility we have as citizens to be able to testify here and we certainly support this lady that she has a right, as many others have a right, to come here to testify to the seriousness of this problem and our concern for this problem.

MR. STEIN: May we have your name, sir. For the record.

REV. DUBI: Father Dubi.

MR. STEIN: I certainly agree with you. I certainly agree with you.

REV. DUBI: Well, is this going to be an open hearing, then, for people to testify?

MR. STEIN: Anyone who is here or wants to make a statement.

Have we told you you couldn't make a statement on that when you asked for the opportunity to make a statement? Anyone who is here who wants to make a statement is certainly welcome.

MR. KARAGANIS: Mr. Stein.

MR. STEIN: What?

MR. KARAGANIS: Are you now opening the floor for anyone who does want to make a statement?

MR. STEIN: We will open this in an orderly manner.

MR. KARAGANIS: Thank you. (Applause.)

MR. STEIN: We can't have a record without you identifying yourself. Is Mrs. Piere here?

MRS. PIERE: Yes.

MR. STEIN: All right. Anyone who wants to make a statement, register with Mrs. Piere and we will recess for 10 minutes.

(RECESS)

MR. STEIN: Let's reconvene.

We have three people who have registered. Joseph Karaganis, will you please come to the rostrum and identify yourself.

JOSEPH KARAGANIS
BUSINESSMEN FOR THE PUBLIC INTEREST
CHICAGO, ILLINOIS

MR. KARAGANIS: My name is Joseph Karaganis. I am here representing Businessmen for the Public Interest.

Like Mrs. Botts, I had presumed that this meeting was going to be a closed session and had not attempted to prepare written testimony today, indeed had not attempted to prepare a specific statement outlining the criticisms of existing thermal problems and existing thermal pollution as well as radiation problems.

One of the criticisms that citizens groups continually receive from agencies and that citizens groups continually receive from industry is that we are uninformed, we are ill prepared and we come up and make emotional statements.

I am not here to make an emotional statement today. I am here to tell you that because of the procedure followed for this meeting I am unprepared today. I was not expecting the opportunity to testify and I have not had a chance to prepare the kind of testimony that I feel would be useful to your deliberations.

I am asking, therefore, that you follow a consistent open and public policy of reconvening this session so that the literally close to 100 community groups that I know of that are concerned about this problem do have an opportunity to prepare informed, reasoned, aggressive testimony on the problem.

Thank you. (Applause.)

MR. STEIN: Thank you.

Mr. Karaganis, I will recommend that we give you that opportunity as soon as possible and reconvene the session so you will all have an opportunity to discuss it.

MR. KARAGANIS: Thank you.

MR. STEIN: Catherine T. Quigg.

CATHERINE T. QUIGG

BARRINGTON, ILLINOIS

MRS. QUIGG: I am Catherine T. Quigg and I represent myself. I have done some research in thermal pollution because I am concerned about the Zion plant and the effects on Lake Michigan.

I have written a statement which I hoped to submit today.

According to representatives of Commonwealth Edison Company, cooling towers are not feasible at their Zion, Illinois, nuclear powerplants. They claim wet cooling towers will produce undesirable atmospheric conditions for the surrounding area.

However, such conditions are not often encountered in practice. A recent investigation of fogging problems from natural and mechanical draft towers presently operating in the eastern United States supports this conclusion. Reports indicate that natural draft towers, that is wet towers, did not produce ground level fog or drizzle under any weather conditions. Plumes rarely dropped below the top of the tower for an extended distance, and generally dissipated within a few hundred feet of a tower.

In general, undesirable meteorologic effects from towers can be prevented or controlled to a large degree through modern design--effective drift eliminators, air flow control, et cetera. In situations where problems arise, the area affected is limited to that immediate to the tower installation.

The above information is contained in the "Industrial Waste Guide on Thermal Pollution" prepared by the United States Department of the Interior, Federal Water Pollution Control Administration, Pacific Northwest Water Laboratory, Corvallis, Oregon, September 1968.

The other objection that is often voiced by the power industries is its cost. According to Federal Water Pollution Control Administration studies, installation of cooling equipment to control thermal pollution from water discharges from powerplants would add from one percent to five percent to a customer's electric bill.

Thank you.

MR. STEIN: Thank you very much.

May we have Janis Nash.

JANIS NASH
CHAIRMAN
SOCIETY TO STOP POLLUTION
CHICAGO, ILLINOIS

MRS. NASH: Good morning, gentlemen.

I am not sure that I understand all the technicalities of keeping our lake clear and free and able to use. But I do understand that that part of it is your job right now,and I know that I am planning to use the lake this summer with my children,and I know there are a lot of people who are planning to use it,and I hope that it will be able to be used. I don't think that the people of this city and the cities surrounding the lake ought to be forced inside to indoor pools because they cannot use their lake.

That is all I have. (Applause.)

MR. STEIN: Thank you very much.

At this point we will proceed with the reports from the States.

May we call on Michigan. Mr. Purdy.

RALPH W. PURDY
EXECUTIVE SECRETARY
MICHIGAN WATER RESOURCES COMMISSION
LANSING, MICHIGAN

MR. PURDY: Mr. Stein, under a letter dated May 1, 1970, we furnished to Mr. Mayo a table containing interim dates for compliance with the recommendations of the reconvened session of the Lake Michigan enforcement conference that you, speaking of Mr. Mayo, requested in his letter of April 14, 1970.

The dates listed for dischargers to retain engineers, initiate detailed engineering plans and specifications and arrange financing are staff recommended target dates that have not been included in stipulations, orders of determinations or final orders. And we have a complete listing of these dates to present to the conferees. I don't know how you would like to handle this this morning. There are some 85 municipalities. I don't think that you would care to go through those in detail.

MR. STEIN: Do you have enough copies to hand around?

MR. PURDY: Yes, sir.

MR. STEIN: Can you refer to possibly the highlights of those which you feel may not be on schedule and just skip the ones which are or refer to them? Is that possible?

MR. PURDY: Well, yes.

MR. STEIN: And maybe we can just get at the major ones.

MR. PURDY: At the reconvened session in Milwaukee, we reported to you on dates for preliminary engineering report to submit the detailed specifications, dates to initiate construction and to complete construction. We were not behind on any of those dates.

We have inserted additional dates for retaining engineers, to initiate detailed plans and specifications, to arrange the financing, and none of the municipalities or industries listed are behind the dates that we have submitted to you.

(Which said report is as follows:)

INTERIM DATES FOR COMPLIANCE WITH RECOMMENDATIONS OF THE RECONVENED SESSION OF THE LAKE MICHIGAN ENFORCEMENT CONFERENCE

The following table contains interim dates for compliance with the recommendations of the reconvened session of the Lake Michigan Enforcement Conference. The dates listed for discharges to retain engineers, initiate detailed engineering plans and specifications and arrange financing are staff recommended target dates that have not been included in stipulations, orders of determination or final orders.

INTERIM DATES FOR COMPLIANCE WITH RECOMMENDATIONS OF THE RECONVENED SESSION OF THE LAKE MICHIGAN ENFORCEMENT CONFERENCE

Basin	Industry or Community	Final Order of Determination or Voluntary Stipulation No.	Date Adopted	Retain Engineers	Submit Preliminary Engine-ering Report	Initiate Detailed Plans and Specif-ications	Submit Detailed Speci-ications	Arrange Finan-cing	Initiate Const-ruction	Complete Const-ruction	Remarks
						INDUSTRIAL DISCHARGES					
UPPER PENINSULA											
Menominee River	1. American Can Co., Menominee Mill, Marathon Div.	Stipulation	2-9-70	3-9-70	1-70	7-1-70	1-1-71	5-1-71	6-1-71	12-1-72	
Escanaba River	1. Mead Corp., Escanaba Division	Order of Determination #1161	5-31-68								Increased use statement, Control required by start of operation
LOWER PENINSULA											
Boardman River	1. Traverse City Canning Company	Stipulation	5-16-69	6-16-69	5-1-70	6-1-70	3-1-71	5-30-71	6-30-71	12-31-71	
Lake Michigan	1. Morgan McCool, Inc.	Stipulation	5-16-69	6-16-69	5-1-70	6-1-70	3-1-71	5-30-71	6-30-71	12-31-71	
	2. Packaging Corp. of America, American Box Board Div.						4-1-71	6-1-71	7-1-71	12-1-72	Conference held 5-15-69. Stipulation not yet signed. Dates are staff recommendations
						MUNICIPAL DISCHARGES					
UPPER PENINSULA											
Menominee River	1 Iron Mountain - Kingsford	Final Order #1305	9-22-69	10-22-69	3-1-70	4-1-70	9-1-70 3-1-71	4-1-71 3-1-71	5-1-71 4-1-71	12-1-72 6-1-72	Nutrient removal New or improved treatment.
	2. Iron River	Stipulation	7-22-69	8-22-69	4-1-70	5-1-70	1-1-71	5-1-71	6-1-71	12-1-72	
	3. Menominee	Stipulation	2-14-69	3-14-69	6-1-69	7-1-69	9-1-70 12-1-70	5-1-71 5-1-71	6-1-71 6-1-71	12-1-72 12-1-72	Nutrient removal New or improved treatment.
	4. Norway	Final Order #1306	9-22-69	10-22-69	3-1-70	4-1-70	2-1-71	5-1-71	6-1-71	12-1-72	
Days River	1. Gladstone	Final Order #1304	3-23-70	4-23-69	3-1-70	4-1-70	12-1-70 12-1-70	5-1-71 4-1-71	6-1-71 5-1-71	12-1-72 6-1-72	Nutrient removal New or improved treatment.
Manistique River	1. Manistique				7-1-70	8-1-70	7-1-71	8-1-71	10-1-71	12-1-72	Final Order with these dates authorized by Commission at April 1970 meeting.
LOWER PENINSULA											
Pine River	1. Boyne City	Stipulation	3-20-69	4-20-69	12-1-69	1-1-70	9-1-70	4-1-71	6-1-71	12-1-72	
	2. Charlevoix	Stipulation	2-14-69	3-14-69	6-1-69	7-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	3. East Jordan Lake	Stipulation	6-24-69	7-24-69	12-1-69	1-1-70	9-1-70	5-1-71	6-1-71	12-1-72	
Boardman River	1. Traverse City	Final Order #1198	8-30-68	9-30-68	10-15-69	11-15-69	6-1-70	6-15-70	7-15-70	12-31-71	
Betsie River	1. Beulah	Voluntary Program									Under construction.
Manistee River	1. Manistee	Stipulation	2-14-69	3-14-69	6-1-69	7-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
Pere Marquette River	1. Ludington	Statutory Hearing held 3-18-70					3-1-71	11-1-71	12-1-71	12-1-72	Dates are staff recommendations.

Basin		Community	Final Order of Determination or Voluntary Stipulation No.	Date Adopted	Not. [illegible] Engineers	Submit Preliminary Engineering Report	Initiate Detailed Plans and Specifications	Submit Detailed Specifications	Arrange Financing	Initiate Construction	Complete Construction	Remarks
White River	1.	Whitehall	Stipulation	10-16-68	11-16-68	7-1-70	8-1-70	9-1-70	5-1-71	6-1-71	12-1-72	Nutrient removal
								3-1-71	7-1-71	8-1-71	10-1-72	New or improved treatment.
Muskegon River	1.	Big Rapids	Final Order #1290	7-28-69	8-28-69	4-1-70	5-1-70	12-1-70	5-1-71	6-1-71	12-1-72	
	2.	Cadillac	Stipulation	5-16-69	6-16-69	2-1-70	3-1-70	9-1-70	5-1-71	6-1-71	12-1-72	
	3.	Fremont	Stipulation	3-20-69	4-20-69	5-1-70	6-1-70	9-1-70	5-1-71	6-1-71	12-1-72	
	4.	Muskegon	Stipulation	3-20-69	4-20-69	6-1-69	7-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	5.	Muskegon Heights	Stipulation	8-1-69	9-1-69	5-1-70	6-1-70	9-1-70	5-1-71	6-1-71	12-1-72	
	6.	North Muskegon	Stipulation	6-24-69		6-1-69	7-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	7.	Reed City	Stipulation	5-16-69	6-16-69	3-1-70	4-1-70	9-1-70	5-1-71	6-1-71	12-1-72	
Grand River	1.	Alpine Township	Final Order #903	8-1-66							7-1-69	Has connected to Grand Rapids system.
	2.	Delhi Township	Final Order #1257	4-23-69	5-23-69	3-1-70	4-1-70	1-1-71	11-1-71	12-1-71	12-1-72	
	3.	Delta Township	Stipulation	6-24-69		6-1-69	7-1-69	9-1-71	11-1-71	12-1-71	12-1-72	
	4.	Dewitt Township	Final Order #908	8-3-66					3-1-70	4-1-70	9-1-71	In default of Final Order. Construction dates from court order of 10/24/68.
	5.	East Lansing	Stipulation	8-5-69	9-5-69	8-1-70	9-1-70	8-1-71	11-1-71	12-1-71	12-1-72	
	6.	Eaton Rapids	Final Order #1255	4-21-69	5-21-69	3-1-70	4-1-70	3-1-71	11-1-71	12-1-71	12-1-72	
	7.	Gaines Township (Cutlerville)										Has been connected to the Wyoming system.
	8.	Grand Haven	Stipulation	4-23-69	5-23-69	9-1-69	10-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	9.	Grand Ledge	Stipulation	12-11-69	1-11-70	11-1-70	12-1-70	6-1-71	8-1-71	9-1-71	12-1-72	
	10.	Grand Rapids	Stipulation	6-24-69		6-1-69	7-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	11.	Grandville	Stipulation	8-1-69	9-1-69	5-15-70	6-15-70	9-1-70	5-1-71	6-1-71	12-1-72	
	12.	Greenville	Stipulation	4-23-69	5-23-69	11-1-69	12-1-69	12-1-70	5-1-71	6-1-71	12-1-72	
	13.	Hastings	Stipulation	3-20-69	4-20-69	6-1-69	7-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	14.	Hudsonvill.									5-1-70	To be connected to the Grandville system.
	15.	Ionia	Stipulation	5-16-69	6-16-69	4-1-70	5-1-70	12-1-70	5-1-71	6-1-71	12-1-72	
	16.	Jackson									12-1-72	Statutory hearing to be held 5/11/70.
	17.	Lansing	Stipulation	8-1-69	9-1-69	4-15-70	5-15-70	3-1-71	11-1-71	12-1-71	12-1-72	
	18.	Leoni Township Jackson Co.									12-1-72	Statutory hearing to be held 5/11/70.
	19.	Lowell	Final Order #1338	1-20-70	2-20-70	9-1-70	10-1-70	5-1-71	11-1-71	12-1-71	12-1-72	
	20.	Mason	Stipulation	10-16-69	11-16-69	3-1-70	4-1-70	12-1-70	7-1-71	8-1-71	12-1-72	
	21	Michigan Reformatory (Ionia)						3-1-71	11-1-71	12-1-71	12-1-72	Dates are staff recommendations.
	22.	Paris Township (City of Kentwood)										Has been connected to the Grand Rapids and Wyoming systems.
	23.	Plainfield Townsh. Kent County										Has been connected to the Grand Rapids system.
	24.	Portland	Final Order #1256	4-21-69	5-21-69	4-1-70	5-1-70	12-1-70	5-1-71	6-1-71	12-1-72	
	25.	Rockford										To connect to the Grand Rapids system. Interceptor completed 11-69.

Basin	Community	Final Order of Determination or Voluntary Stipulation No.	Date Adopted	Retain Engineers	Submit Preliminary Engineering Report	Initiate Detailed Plans and Specifications	Submit Detailed Specifications	Arrange Financing	Initiate Construction	Complete Construction	Remarks
	26. St. Johns	Statutory Hearing held 4-23-70									Continued to Hearing examiner.
	27. Sparta	Voluntary program									Under construction.
	28. Spring Lake	Stipulation	3-20-69	4-20-69	9-1-69	10-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	29. State Prison (Jackson)										To provide nutrient removal by 12-72.
	30. Walker										Has been connected to the Grand Rapids system.
	31. Williamston	Stipulation	8-11-69	9-11-69	9-15-69	10-15-69	9-1-70	5-1-71	6-1-71	12-1-72	
	32. Wyoming	Stipulation	9-17-69	10-17-69	7-1-70	8-1-70	1-1-71	5-1-71	6-1-71	12-1-72	
Black River	1. Holland	Stipulation	3-20-69	4-20-69	6-1-69	7-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	2. Zeeland	Stipulation	4-23-69	5-23-69	4-1-70	5-1-70	12-1-70	11-1-71	12-1-71	12-1-72	
Kalamazoo River	1. Albion	Stipulation	5-16-69		6-1-69	7-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	2. Allegan	Stipulation	5-16-69	6-16-69	7-1-70	8-1-70	1-1-71	9-1-71	10-1-71	12-1-72	
	3. Battle Creek	Court Order									Attorney General asked to reopen court action.
	4. Charlotte	Stipulation	1-26-70	2-26-70	5-1-70	6-1-70	4-1-71	5-1-71	6-1-71	12-1-72	
	5. Kalamazoo	Stipulation	2-14-69	3-14-69	6-1-71	7-1-71	1-1-72	2-1-72	3-1-72	12-1-72	
	6. Marshall	Stipulation	3-20-69	4-20-69	6-1-69	7-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	7. Otsego	Stipulation	6-24-69	7-24-69	6-1-70	7-1-70	9-1-70	5-1-71	6-1-71	12-1-72	
	8. Plainwell	Order of Determination #1240	3-24-69	4-24-69	10-1-69	11-1-69	3-1-71	11-1-71	12-1-71	12-1-72	
	9. Springfield										Has been connected to the Battle Creek system.
	10. South Haven	Stipulation	4-23-69	5-23-69	4-1-70	5-1-70	12-1-70	5-1-71	6-1-71	12-1-72	
Paw Paw River	1. Benton Township	Conference held 3/18/70		4-1-70	9-15-70						Voluntary program underway to correct sewer overflows.
	2. Hartford	Final Order #1249	3-24-69	4-24-69	9-1-69	10-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	3. Paw Paw	Final Order	3-24-69	4-24-70	5-1-70	6-1-70	9-1-70	5-1-71	6-1-71	12-1-72	
St. Joseph River	1. Andrews University Berrien Springs	Stipulation	3-20-69	4-20-69	6-1-70	7-1-70	1-1-71	5-1-71	6-1-71	12-1-72	
	2. Benton Harbor & St. Joseph	Stipulation	5-16-69		6-1-69	7-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	3. Berrien Springs	Stipulation	3-20-69	4-20-69	12-1-69	1-1-70	12-1-70 12-1-70	5-1-71 3-1-71	6-1-71 4-1-71	12-1-72 6-1-72	Nutrient removal New or improved treatment.
	4. Bronson	Stipulation	5-16-69	6-16-69	3-1-70	4-1-70	9-1-70	5-1-72	6-1-72	12-1-72	
	5. Buchanan	Final Order #1346	2-23-70	3-23-70	4-1-70	5-1-70	12-1-70 12-1-70	5-1-71 3-1-71	6-1-71 4-1-71	12-1-72 6-1-72	Nutrient removal New or improved treatment.
	6. Coldwater	Stipulation	8-1-69	9-1-69	3-1-70	4-1-70	1-1-71	2-1-71	3-1-71	12-1-72	
	7. Coldwater State Home and Training School						3-1-71	11-1-71	12-1-71	12-1-72	Dates are staff recommendations.
	8. Constantine	Stipulation	8-7-69	9-7-69	12-1-69	1-1-70	12-1-70 12-1-70	5-1-71 3-1-71	6-1-71 4-1-71	12-1-72 6-1-72	Nutrient removal New or improved treatment.
	9. Dowagiac	Stipulation	6-24-69	7-24-69	1-1-70	2-1-70	9-1-70	5-1-71	6-1-71	12-1-72	
	10. Hillsdale	Stipulation	3-20-69	4-20-69	9-1-69	10-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
	11. Niles	Stipulation	3-20-69	4-20-69	6-1-69	7-1-69	12-1-70	3-1-71	4-1-71	12-1-72	
	12. Sturgis	Order of Determination #1285	4-28-69	5-28-69	9-1-69	10-1-69	9-1-70	5-1-71	6-1-71	12-1-72	

Basin	Community	Final Order of Determination or Voluntary Stipulation No.	Date Adopted	Retain Engineers	Submit Preliminary Engineering Report	Initiate Detailed Plans and Specifications	Submit Detailed Specifications	Arrange Financing	Initiate Construction	Complete Construction	Remarks
	13. Three Rivers	Stipulation	5-16-69	6-16-69	9-1-69	10-1-69	12-1-70 12-1-70	5-1-71 3-1-71	6-1-71 4-1-71	12-1-72 6-1-72	Nutrient removal New or improved treatment.
	14. Vicksburg	Stipulation	2-14-69	3-14-69	8-1-69	9-1-69	9-1-70	5-1-71	6-1-71	12-1-72	
MISCELLANEOUS DRAINAGE AREAS											
Galien River	1. Chikaming Twp. (Sawyer, Lakeside, Union Pier)	Final Order #1136	3-28-68	4-28-68	6-1-68	7-1-68	3-1-70	6-1-70	7-1-70	7-1-71	
	2. New Buffalo	Final Order #1250	3-24-69	4-24-69	2-1-70	3-1-70	9-1-70	5-1-71	6-1-71	12-1-72	
	3. New Buffalo Twp. (Union Pier Area)	Final Order #1135	3-25-68	4-26-68	6-1-68	7-1-68	3-1-70	6-1-70	7-1-70	7-1-71	
Lake Michigan	1. Harbor Point Association	Stipulation	6-24-69	7-24-69	12-1-69	1-1-70	12-1-70	5-1-71	6-1-71	12-1-72	
	2. Harbor Springs	Stipulation	4-23-69	5-23-69	9-1-69	10-1-69	12-1-70	5-1-71	6-1-71	12-1-72	
	3. Petoskey	Stipulation	3-20-69	4-20-69	8-1-69	9-1-69	12-1-70 12-1-70	5-1-71 3-1-71	6-1-71 4-1-71	12-1-72 6-1-72	Nutrient removal New or improved treatment.
	4. Wequetonsing	Stipulation	8-1-69	9-1-69	12-1-69	1-1-70	12-1-70	5-1-71	6-1-71	12-1-72	
Portage Creek	1. Escanaba	Stipulation	2-14-69	3-14-69	6-1-69	7-1-69	3-1-71	11-1-71	12-1-71	12-1-72	

MR. STEIN: Thank you.

Are there any comments or questions?

As I see it, this is precisely the kind of information that we ask for. It will enable the State, the Federal Government, the other States involved, the public and everyone to check with precision on the remedial program the conferees have agreed upon and see if there are any lapses. This is the key information that we need at this stage of the cleanup of Lake Michigan.

I would like to thank you very much for this, Mr. Purdy. The conferees can examine this, and while you are here, Mr. Purdy, if anyone has any questions, I assume you will hold yourself open for them.

MR. PURDY: Now, Mr. Stein, I would like to point out that on the Submit Preliminary Engineering Report dates. many of these dates have gone by. In some instances the preliminary engineering report is a week or a month late coming into the Commission, but as of this date any time that there has been a preliminary engineering report date lapse we have it in hand now.

MR. STEIN: Right. Thank you very much.

Yes, Mr. Poole.

MR. POOLE: What about the industries?

MR. PURDY: We are on schedule with the industries that are shown on this report.

MR. POOLE: I may not have been looking carefully enough. I haven't found any industries.

MR. STEIN: Well, look at the first page.

MR. POOLE: I see them at the top. O. K.

MR. STEIN: Thank you.

You remember when I started out years ago, Al Reeder used to complain when we gave him these copies he couldn't read, and I wondered what he was talking about. Now that I am getting along and they put this stuff out in small print, I know just what he meant.

Does that conclude the Michigan presentation on that?

MR. PURDY: Yes.

MR. STEIN: May we go to Wisconsin.

THOMAS G. FRANGOS
DIRECTOR, BUREAU OF WATER RESOURCES
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MADISON, WISCONSIN

MR. FRANGOS: Mr. Chairman.

We have a statement report to make to the conferees and we are distributing them.

While they are being passed out, I think we would like to insert for the record the fact that we, too, have discouraged and, in fact, turned down a request for public groups to appear at this meeting, and I just want it to be understood that we were operating under that understanding.

MR. STEIN: Yes. Let me make this clear for all the States. I recognize this. This was the intent of the meeting, to have an Executive Session. Again as you know, you people who have worked with us, you know it is our intent, our considered operation policy, never to turn anyone away who feels compelled that they really want to say something.

All right.

MR. FRANGOS: We understand. We just want our people back home to understand.

MR. STEIN: All right.

And we will make a recommendation, since there is that much interest here, to have a meeting scheduled as soon as possible where we will have an opportunity again for the widest insertion of public views.

MR. PURDY: Mr. Frangos, if I could interrupt a moment, on this same point I would have to say that we had several inquiries from persons interested in making statements at this hearing, and again having been involved in Executive Sessions prior to this date we informed these people that they would not have an opportunity to make statements; that they could be present in the audience.

Now, you can't see the map from where you are sitting, Mr. Chairman, but I know that you are familiar with it. If we look at the drainage basin involved and the surface area of Lake Michigan and shoreline involved, I think it is quite obvious that Michigan has a great stake in the quality of Lake Michigan waters.

I have traveled and Michigan people have traveled to Chicago numerous times to participate in sessions of this conference. I think it is time that we meet in Michigan and give our Michigan people an opportunity to appear and observe the conference and to participate in it without the long travel distance required in coming to the Chicago area.

MR. STEIN: I would agree with that. Again I can't see the map, but isn't a place near Grand Rapids a reasonable place to be?

MR. PURDY: Grand Rapids would, say, be in an area where we have a large part of our Michigan population.

MR. STEIN: What is the city or community right on the lake near Grand Rapids?

MR. PURDY: Well, Mr. Klassen would like to go back to his old home at Grand Haven, I understand.

MR. STEIN: Oh, Grand Haven.

Why don't the conferees consider that, because I think we may have the next session at Grand Haven and we will give an opportunity, certainly, to the Michigan people who haven't had one of these conferences held in their State.

MR. KLASSEN: Seriously, Mr. Chairman, while I have a warm spot in my heart for Grand Haven and even though they have a primary sewage treatment plant (laughter), I think that we ought to go probably to Grand Rapids because of the ease with which people from Illinois can get to the center of transportation. If we are going to Michigan, I would say that probably we ought to forego the little town of Grand Haven and go to Grand Rapids. Where they have, I understand, a complete treatment plant, Ralph?

MR. PURDY: That is correct.

MR. KLASSEN: And chlorination?

MR. PURDY: And chlorination and very possibly will have phosphorus removal.

MR. KLASSEN: Thank you.

MR. STEIN: Well, let's consider that next time.

Mr. Klassen, how about our taking a side trip to Grand Haven, though?

MR. KLASSEN: I will be glad to show you some of the sources of pollution, Mr. Chairman. (Laughter.)

MR. POOLE: I also want to see where Klassen was born, so count me in on that side trip.

MR. STEIN: You know, I have been anxious to find out that too. (Laughter.)

May we go on with the Wisconsin statement, Mr. Frangos?

MR. FRANGOS: Yes.

In response to the action taken at the recently reconvened Lake Michigan enforcement conference at Milwaukee, Wisconsin, on March 31, 1970, the Department of Natural Resources has prepared the following report on the status of abatement schedules that have been established to meet the several requirements of the Lake Michigan enforcement conference.

In accordance with the recommendations of the conferees, a detailed abatement schedule covering all pollution sources located within the Lake Michigan drainage basin has been prepared and is attached for the information and review of the conferees. It should be noted that this schedule contains a complete breakdown of the remedial needs at each municipality and industry and has a related time schedule for securing abatement. It should be further noted that each need has been identified as to whether the particular deficiency has an effect on water quality of the watercourses covered by the jurisdiction of the Lake Michigan enforcement conference. The previous reports of the Department had outlined these needs collectively and had not been as specific as to whether the needs affected the quality of those waters of concern to this conference. As a result of the proceedings at the last session of the conference, it appeared desirable to be as precise as possible as to the time schedules that fall within the framework of this conference.

At the last session in Milwaukee, several questions were raised about specific pollution sources and to their respective timetables for compliance. The following is in response to these questions:

Industrial and Municipal Sources - other than disinfection requirements.

J. I. Case Company.

A review of progress made at this company indicates that it has completed the installation of facilities to reduce suspended solids and treat oil wastes. These facilities have been constructed and are now in operation. This action by the company places it in compliance with State requirements and Federal requirements as outlined in the implementation plan for interstate water quality standards.

Baileys Harbor Laundry.

This laundry operates during the summer months at Baileys Harbor, Wisconsin. Repeated efforts on the part of the Department to secure corrective action have not been successful. The Department of Natural Resources is now in the process of determining legal enforcement steps that must be taken to secure abatement. The other alternative is to close the facility. It should be noted that the Department of Natural Resources has categorized this pollution source as not affecting water quality of Lake Michigan. Neither its oxygen demanding constituents nor the phosphorus load is of sufficient size to affect water quality other than in the immediate vicinity of the discharge.

Disinfection.

A list of Wisconsin communities at which disinfection was not occurring on a year-round basis at the time of the reconvened session in Milwaukee on March 31, 1970, was furnished to the conferees. This list has been reassessed, brought up to date and the following details are reported. A review of this list indicates that three of the communities fall within the jurisdiction of the conference recommendation as it relates to disinfection.

Milwaukee Metropolitan Sewerage Commission. A detailed discussion of this situation will follow.

Two Rivers.

This community has purchased the required chlorination facilities and they have been delivered to the plant and have been installed. The community is now awaiting the arrival of the equipment manufacturer's representative to initiate operation of the chlorination equipment. It is anticipated that this will take place within the next 10 days. Barring unforeseen problems, chlorination will be in effect in the very near future.

Village of Oconto.

The village is required to provide disinfection by May 1970. It is apparent that this deadline will not be met. The Department is instituting enforcement proceedings to achieve compliance.

The following Wisconsin communities do not provide chlorination and this relates to the listing that was prepared at the close of the last session.

It is the Department's position that the absence of chlorination does not affect the water quality of Lake Michigan. However, for the information of the conferees, we are presenting a listing of compliance or installation dates required by the Department of Natural Resources.

And we have that list that you have before you for your review and information and comments. I will not read it unless you want me to.

MR. STEIN: No, I think, unless any of the conferees has a reason for that being read, that will appear in the record as if read.

(Which said list appears herein at page 61.)

MR. FRANGOS: The Milwaukee Metropolitan Sewerage Commission, disinfection abatement schedules.

At the recent reconvened session in Milwaukee, the question of unilateral action on the part of Wisconsin with respect to extending conference deadlines for disinfection was raised. It appears that it would be useful for some of the historical background to be made a part of the record and available to the conferees.

The implementation plan for the Wisconsin Interstate Water Quality Standards program that was adopted by the Secretary of the Interior required that the Milwaukee Metropolitan Sewerage Commission provide disinfection by May 1968. Subsequent to the development of this implementation plan, the Lake Michigan enforcement conference was reconvened and abatement deadlines were established. One of these was the requirement of year-round chlorination by May 1969. When it became apparent to the Department of Natural Resources that there was a question as to whether the Milwaukee Metropolitan Commission would meet either of these deadlines, we initiated discussions and correspondence with the Federal Water Quality Administration. It was Wisconsin's understanding, since the implementation plan had a prior date, that we should work with the Federal agency rather than with the conference as a whole. The record, we believe, is clear that the Federal Water Quality Administration was aware of this delay and that the agency did not object to the revised timetables that were established by the State of Wisconsin. As late as February 1969 our Department corresponded with the Chicago Regional Office of the Federal Water Quality Administration with respect to the Milwaukee Metropolitan Sewerage disinfection problem. A revised schedule was negotiated between the Department of Natural Resources and the Milwaukee Sewerage Commission as to the earliest time possible for compliance. For several reasons, which will be discussed later, it was determined that the earliest schedule possible for the permanent installation of chlorination facilities would be December 31, 1971. This action was communicated again to the Federal Water Quality Administration. We had the impression from the former Regional Director that a timetable that was acceptable to the State agency would be acceptable to the FWQA. On subsequent occasions during meetings with the Department of the Interior and the FWQA, about the Milwaukee Jones Island Plant, there have been ample opportunities for the FWQA to raise this question of delay and unilateral action. This was not done until the session in Milwaukee. I would like to cite several examples.

The Wisconsin Department of Natural Resources and the Commission have provided the Chicago Regional Office with data obtained from preliminary research investigations on the proposed chlorination process at the Jones Island Plant. We have received no comments on these reports. This data was submitted on the assumption that there was concurrence in the overall proposal for chlorination.

In November of 1969, Assistant Secretary Carl Klein, accompanied by Lt. Governor Olson, visited the Jones Island Plant and made an inspection. Although considerable time was spent at the Jones Island Plant, no concern was expressed about chlorination at that time. In fact, we were particularly gratified that Secretary Klein recognized some of the experimental work relating to phosphorus removal that had been initiated by the Commission. As a result of Secretary Klein's visit, the FWQA awarded a grant to the Commission to help support and continue studies investigating the use of spent industrial waste as a means for providing additional phosphorus removals at the Jones Island

Plant. We appreciate the Department's support of that important experiment.

Subsequently in January, staff members of the Chicago Regional Office spent two days with the Department of Natural Resources staff reviewing pollution abatement schedules, including the Lake Michigan Basin. No objections were received at that time.

In the latter part of February, the recently appointed Regional Director, Mr. Mayo, came to Wisconsin to review our programs and discuss the upcoming Lake Michigan enforcement conference and the agenda. No objection was made at that time about chlorination at the Jones Island Plant.

As late as the week previous to the holding of the conference, the Regional Director extended an invitation to Mr. Raymond Leary, Executive Director of the Milwaukee Metropolitan Sewerage Commission, to participate in the enforcement conference and discuss the status of the phosphorus removal investigations that were partially funded by the FWQA. Mr. Leary did appear at that conference as part of the Federal presentation. At no time was Mr. Leary advised of the dissatisfaction with the chlorination question.

These events are cited to indicate that the Wisconsin Department of Natural Resources did not proceed on a unilateral basis. Our assumption was and is that the implementation plan took precedence over enforcement conference recommendations and for that reason, we worked with the Regional Office of FWQA. This approach was made in good faith, and we wish to assure the conferees that there was no intention to bypass the other conferees of the Lake Michigan enforcement conference. It should be further noted that there are no published rules or regulations or guidelines that have been promulgated by the Department of the Interior to give specific guidance and details on how this whole area of joint enforcement of standards and recommendations should be administered. We consider the lack of such rules to be a substantial weakness in conference procedures.

I would like to comment at this time, Mr. Chairman, that we make this statement for the record so that the Wisconsin actions can be reviewed by the conferees in total. We do this without any

Commission felt obliged to proceed with the project for renovating the powerplant. The second reason relates to the physical limitations at the Jones Island Treatment Plant site. The installation of conventional treatment facilities would require the construction of a very large holding tank at the outfall of the treatment plant. At the present time there is insufficient space for construction of this large holding tank. At the same time the Commission reexamined earlier considerations that had been given to providing a different method of disinfection. That method is to provide for chlorination in the effluent channels of the treatment plant at a higher concentration than normally maintained and with a shorter detention period. Under normal flow conditions the detention period that can be obtained in the effluent channels is about seven minutes. There, of course, was also the recognition that there would be considerable savings if this method could be used rather than the construction of the large holding tank. As part of the State approval the Commission was permitted to proceed with chlorination experiments to determine whether, in fact, a comparable kill could be obtained recriminations with respect to the operations of the Chicago Regional Office. We recognize that there was a change of direction of that program in terms of the personnel. I would also offer that perhaps we should have communicated directly with Washington on this matter and perhaps we should have kept the States advised of this. But again we just point this out that as far as we are concerned we think we proceeded in good faith on this matter.

The Milwaukee Metropolitan Sewerage Commission - revised disinfection schedule.

The reasons for the delay in securing effluent disinfection at the Jones Island Sewage Treatment Plant are twofold. The first was a matter of priorities within the funds available to the Commission for maintaining operation of its system and its treatment plants. The powerplant at the Jones Island Treatment Plant has been in dire need of complete renovation and reconstruction. This is a $17 million project that could not be deferred. The loss of power would mean a complete shutdown of the treatment plant. Based on a judgment of priorities--and you remember this is now over two years ago--the using a seven-minute contact time and chlorination rates ranging from four to five milligrams per liter. These preliminary experiments have been completed, and we are encouraged that this method will be satisfactory and can secure results comparable with standard practices. The Department of Natural Resources is reviewing the data that has been submitted, and the decision on approval of this method of disinfection will be made shortly.

Milwaukee Sewage Commission - effects of current waste discharges on bacteria quality.

The effect of the unchlorinated effluent from the Jones Island Treatment Plant has been studied and has been well documented since the completion of the treatment plant in 1925. On the basis of these studies, it has been concluded by the Wisconsin Department of Natural Resources, the Wisconsin Division of Health, the Milwaukee City Health Commission, and the Milwaukee Sewage Commission that the discharge of the effluent from Jones Island Plant does not adversely affect the use of bathing beaches in the Milwaukee metropolitan area. Additionally, no adverse effects to water quality have been observed along the shoreline of the Wisconsin portion of Lake Michigan. Several water supply intakes are located south of the Jones Island outfall sewer, and we are acutely aware of the need to protect against contamination in that area. Our records at the intakes indicate that there is no adverse bacterial effect traceable to the Jones Island Sewage Treatment Plant.

We have attached for the review of the conferees a record of bacterial quality at the water supply intakes of Wisconsin municipalities in the vicinity of the Jones Island Sewage Treatment Plant. From the 1969 data, we can conclude the water quality criteria for average daily concentration is being met for recreational use. It also should be noted that the daily maximums are exceeded. However, it is our conclusion that these results are due to combined sewer overflow discharges and are not traceable to the Jones Island Sewage Treatment Plant. Similar data for many years can be made available to the conferees if they so desire.

We are also listing a summary of 1969 coliform concentrations and removals at the Jones Island Treatment Plant for the year 1969. Samples are collected daily and analysis made in an aliquot taken from 24-hour composite samples:

1969 coliform concentrations and removals:

The screened sewage data indicates 447,900 per milliliter, the effluent from the west side of the plant is 10,080 per milliliter, the east side is 6,720 per milliliter, percent removals of coliform from this plant, on the west segment is 96.9 percent, on the east 97.8 percent.

1969 fecal coliform concentrations and their removals:

Screened sewage, 28,950 per milliliter, from the west plant effluent 775, from the east plant 632, the percent removals on the west 96.2 percent and the east 96.6 percent.

We have reviewed all of the data available to us, including that supplied by the Federal Water Quality Administration with respect to bacterial and microbiological studies and current studies. Our assessment of that data when viewed with the time of travel that has been estimated by the FWQA is that the discharges from the Jones Island Treatment Plant in no way can contribute bacterial pollution problems which may be occurring in Illinois waters and in the vicinity of the city of Chicago. Any sanitary evaluation of the total picture would lead one to conclude that if there are problems in Illinois that the causes would be located more closely to home. A review of the urbanized situation in the Chicago area and the northern shoreline confirms this conclusion that any water quality problems that may exist are from local sources.

That completes our report, Mr. Chairman. We have tried to lay this thing out on the table squarely. This is the position and the actions that the Department has taken and we welcome any comments.

MR. STEIN: All right.

The entire report without objection will appear in the record as if read.

(Which said report is as follows:)

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

REPORT TO LAKE MICHIGAN ENFORCEMENT CONFERENCE

STATUS OF ABATEMENT

May 7, 1970

REPORT TO LAKE MICHIGAN ENFORCEMENT CONFERENCE

Status of Abatement

May 7, 1970

In response to the action taken at the recently reconvened Lake Michigan Enforcement Conference at Milwaukee, Wisconsin on March 31, 1970, the Department of Natural Resources has prepared the following report on the status of abatement schedules that have been established to meet the several requirements of the Lake Michigan Enforcement Conference.

General

In accordance with the recommendations of the conferees, a detailed abatement schedule covering all pollution sources located within the Lake Michigan Drainage Basin has been prepared and is attached for the information and review of the conferees. It should be noted that this schedule contains a complete breakdown of the remedial needs at each municipality and industry and has a related time schedule for securing abatement. It should be further noted that each need has been identified as to whether the particular deficiency has an affect on water quality of the watercourses covered by the jurisdiction of the Lake Michigan Enforcement Conference. The previous reports of the Department had outlined these needs collectively and had not been as specific as to whether the needs affected the quality of those waters of concern to this Conference. As a result of the proceedings at the last session of the Conference, it appeared desirable to be as precise as possible as to the time schedules that fall within the framework of this Conference.

At the last session in Milwaukee, several questions were raised about specific pollution sources and to their respective timetables for compliance. The following is in response to these questions:

A. Industrial and Municipal Sources - other than disinfection requirements.

1. J. I. Case Company

A review of progress made at this company indicates that it has completed the installation of facilities to reduce suspended solids and treat oil wastes. These facilities have been constructed and are now in operation. This action by the company places it in compliance with state requirements and federal requirements as outlined in the implementation plan for interstate water quality standards.

2. Baileys Harbor Laundry

This laundry operates during the summer months at Baileys Harbor, Wisconsin. Repeated efforts on the part of the Department to secure corrective action have not been successful. The Department of Natural Resources is now in the process of determining legal enforcement steps that must be taken to secure abatement. The other alternative is to close the facility. It should be noted that the Department of Natural Resources has categorized this pollution source as not affecting water quality of Lake Michigan. Neither its oxygen demanding constituents nor the phosphorus load is of sufficient size to affect water quality other than in the immediate vicinity of the discharge.

B. Disinfection

A list of Wisconsin communities at which disinfection was not occurring on a year-round basis at the time of the reconvened session in Milwaukee on March 31, 1970 was furnished to the Conference. This list has been reassessed, brought up to date and the following details are reported. A review of this list indicates that three of the communities fall within the jurisdiction of the Conference recommendation as it relates to disinfection.

1. Milwaukee Metropolitan Sewerage Commission - A detailed discussion of this situation will follow.

2. Two Rivers

This community has purchased the required chlorination facilities and they have been delivered to the plant and have been installed. The community is now awaiting the arrival of the equipment manufacturer's representative to initiate operation of the chlorination equipment. It is anticipated that this will take place within the next 10 days. Barring unforeseen problems, chlorination will be in effect in the very near future.

3. Oconto, Village

The village is required to provide disinfection by May 1970. It is apparent that this deadline will not be met. The Department is instituting enforcement proceedings to achieve compliance.

C. The Following Wisconsin Communities Do Not Provide Chorination

It is the Department's position that the absence of chlorination does not affect the water quality of Lake Michigan. However, for the information of the conference, we are presenting a listing of compliance or installation dates required by the Department of Natural Resources:

Franklin - August, 1970
Southern Colony - Compliance
Grafton - May, 1970
Thiensville - May, 1970
Menomonee Falls - Compliance
Kiel - Public Hearing
Plymouth - Public Hearing
Chilton - Compliance
North Fond du Lac - May, 1970
Portage - July, 1970
Kimberly - June, 1970
Appleton - Compliance
Little Chute - June, 1970
Kaukauna - Compliance
New London - Compliance
Clintonville - Public Hearing
Oconto - May, 1970
Racine Co. Hy. & Office - August, 1970
Oak Creek, Subdivision - August, 1970
Oshkosh - May, 1970
Ripon - May, 1970
Neenah-Menasha - June, 1970
Cedarburg - May, 1970

D. The Milwaukee Metropolitan Sewerage Commission - Disinfection Abatement Schedules

At the recent reconvened session in Milwaukee, the question of unilateral action on the part of Wisconsin with respect to extending Conference deadlines for disinfection was raised. It appears that it would be useful for some of the historical background to be made a part of the record and available to the conferees.

The implementation plan for the Wisconsin interstate Water Quality Standards program that was adopted by the Secretary of the Interior required that the Milwaukee Metropolitan Sewerage Commission provide disinfection by May, 1968. Subsequent to the development of this implementation plan, the Lake Michigan Enforcement Conference was reconvened and abatement deadlines were established. One of these was the requirement of year-round chlorination by May, 1969. When it became apparent to the Department of Natural Resources that there was a question as to whether the Milwaukee Metropolitan Commission would meet either of these deadlines, we initiated discussions and correspondence with the Federal Water Quality Administration. It was Wisconsin's understanding since the implementation plan had a prior date, that we should work with the federal agency rather than with the Conference as a whole. The record, we believe, is clear that the Federal Water Quality Administration was aware of this delay and that the agency did not object to the revised timetables that were established by the State of Wisconsin. As late as February, 1969, our Department corresponded with the Chicago Regional Office of the Federal Water Quality Administration with respect to the Milwaukee Metropolitan Sewerage disinfection problem. A revised schedule was negotiated between the Department of Natural Resources and the Milwaukee Sewerage Commission as to the earliest time possible for compliance. For several reasons, which will be discussed later, it was determined that the earliest schedule possible for the permanent installation of chlorination facilities would be December 31, 1971. This action was communicated again to the Federal Water Quality Administration. We had the impression from the former Regional Director that a timetable that was acceptable to the state agency would be acceptable to the FWQA. On subsequent occasions during meetings with the Department of the Interior and the FWQA, about the Milwaukee Jones Island Plant, there have been ample opportunities for the FWQA to raise this question of delay and unilateral action. This was not done until the session in Milwaukee. Several examples can be cited:

1. The Wisconsin Department of Natural Resources and the Commission have provided the Chicago Regional Office with data obtained from preliminary research investigations on the proposed chlorination process at the Jones Island Plant. We have received no comments on these reports. This data was submitted on the assumption that there was concurrence in the overall proposa for chlorination

2. In November of 1969, Assistant Secretary Carl Klein, accompanied by Lt. Governor Olson, visited the Jones Island Plant and made an inspection. Although considerable time was spent at the Jones Island Plant, no concern was expressed about chlorination at that time. In fact, we were particularly gratified that Secretary Klein recognized some of the experimental work relating to phosphorus removal that had been initiated by the Commission As a result of Secretary Klein's visit, the FWQA awarded a grant to the Commission to help support and continue studies investigating the use of spent industrial waste as a means for providing additional phosphorus removals at the Jones Island Plant. We appreciate the Department's support of that important experiment.

3. Subsequently in January, staff members of the Chicago Regional Office spent two days with the Department of Natural Resources' staff reviewing pollution abatement schedules, including the Lake Michigan Basin. No objections were received at that time.

4. In the latter part of February, the recently appointed Regional Director, Mr. Mayo, came to Wisconsin to review our programs and discuss the upcoming Lake Michigan Enforcement Conference and the agenda. No objection was made at that time about chlorination at the Jones Island Plant.

5. As late as the week previous to the holding of the Conference, the Regional Director extended an invitation to Mr. Raymond Leary, Executive Director of the Milwaukee Metropolitan Sewerage Commission, to participate in the Enforcement Conference and discuss the status of the phosphorus removal investigations that were partially funded by the FWQA. Mr. Leary did appear at that Conference as part of the federal presentation. At no time was Mr. Leary advised of the dissatisfaction with the chlorination question.

These events are cited to indicate that the Wisconsin Department of Natural Resources did not proceed on a unilateral basis. Our assumption was and is that the implementation plan took precedence over Enforcement Conference recommendations and for that reason, we worked with the Regional Office of FWQA. This approach was made in good faith, and we wish to assure the conferees that there was no intention to bypass the other conferees of the Lake Michigan Enforcement Conference. It should be further noted that there are no published rules or regulations or guidelines that have been promulgated by the Department of the Interior to give specific guidance and details on how this whole area of joint enforcement of standards and recommendations should be administered. We consider the lack of such rules to be a substantial weakness in Conference procedures.

E. Milwaukee Metropolitan Sewerage Commission - Revised Disinfection Schedule

The reasons for the delay in securing effluent disinfection at the Jones Island Sewage Treatment Plant are twofold. The first was a matter of priorities within the funds available to the Commission for maintaining operation of its system and its treatment plants. The power plant at the Jones Island treatment Plant has been in dire need of complete renovation and reconstruction. This is a $17 million project that could not be deferred. The loss of power would mean a complete shutdown of the treatment plant. Based on a judgement of priorities, the Commission felt obliged to proceed with the project for renovating the power plant. The second reason relates to the physical limitations at the Jones Island Treatment Plant site. The installation of conventional treatment facilities would require the construction of a very large holding tank at the outfall of the treatment plant. At the present time there is insufficient space for construction of this large holding tank. At the same time the Commission reexamined earlier considerations that had been given to providing a different method of disinfection. That method is to provide for chlorination in the effluent channels of the treatment plant at a higher concentration than normally maintained and with a shorter detention period. Under normal flow conditions the detention period that can be obtained in the effluent channels is about seven minutes. There, of course, was also the recognition that there would be considerable savings if this method could be used rather than the construction of the large holding tank. As part of the State approval the Commission was permitted to proceed with chlorination experiments to determine whether, in fact, a comparable kill could be obtained using a seven-minute contact time and chlorination rates ranging from four to five milligrams per liter. These preliminary experiments have been completed, and we are encouraged that this method will be satisfactory and can secure results comparable with standard practices. The Department of Natural Resources is reviewing the data that has been submitted, and the decision on approval of this method of disinfection will be made shortly.

F. Milwaukee Sewage Commission - Effects of Current Waste Discharges on Bacteria Quality

The effect of the unchlorinated effluent from the Jones Island Treatment Plant has been studied and has been well documented since the completion of the treatment plant in 1925. On the basis of these studies, it has been concluded by the Wisconsin Department of Natural Resources, the Wisconsin Division of Health, the Milwaukee City Health Commission, and the Milwaukee Sewage Commission that the discharge of the effluent from Jones Island Plant does not adversely affect the use of bathing beaches in the Milwaukee metropolitan area. Additionally, no adverse effects to water quality have been observed along the shoreline of the Wisconsin portion of Lake Michigan. Several water supply intakes are located south of the Jones Island outfall sewer, and we are acutely aware of the need to protect against contamination in that area. Our records at the intakes indicate that there is no adverse bacterial effect traceable to the Jones Island Sewage Treatment Plant.

We have attached for the review of the conferees a record of bacterial quality at the water supply intakes of Wisconsin municipalities in the vicinity of the Jones Island Sewage Treatment Plant. From the 1969 data, we can conclude the water quality criteria for average daily concentration is being met for recreational use. It also should be noted that the daily maximums are exceeded. However, it is our conclusion that these results are due to combined sewer overflow discharges and are not traceable to the Jones Island Sewage Treatment Plant. Similar data for many years can be made available to the conferees if they so desire.

We are also listing a summary of 1969 coliform concentrations and removals at the Jones Island Treatment Plant for the year 1969. Samples are collected daily and analysis made in an aliquot taken from 24-hour composite samples:

1969 Coliform Concentrations and Removals

Screened Sewage	W. Plant Eff.	E. Plant Eff.	% Removals W	% Removals E
447,900 per ml.	10,080 per ml.	6,720 per ml.	96.9	97.8

1969 Fecal Coliform Concentrations and Removals

Screened Sewage	W. Plant Eff.	E. Plant Eff.	% Removals W	% Removals E
28,950 per ml.	775	632	96.2	96.6

We have reviewed all of the data available to us, including that supplied by the Federal Water Quality Administration with respect to bacterial and microbiologic studies and current studies. Our assessment of that data when viewed with the time of travel that has been estimated by the FWQA is that the discharges from the Jones Island Treatment Plant in no way can contribute bacterial pollution problems which may be occurring in Illinois waters and in the vicinity of the City of Chicago. Any sanitary evaluation of the total picture would lead one to conclude that if there are problems in Illinois that the causes would be located more closely to home. A review of the urbanized situation in the Chicago area and the northern shoreline confirms this conclusion that any water quality problems are from local sources.

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

MUNICIPALITIES
5/1/70

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L.Mich.	*Implementation Schedule A	B	C	D	E	F	G
Mt. Pleasant	Pike River	Septic Tanks	None	No							
Kenosha (4B-68-3-3A)	L. Michigan	Secondary (Act. Sl.) Disinfection	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
			Sewer Sep.	Yes							7/77
			Annual Reports	-							
Greendale	Root River	Connected to Milwaukee Met.	None	No							
Hales Corners (4B-68-4-10A)	Root River	Secondary (Filter)	Connect to Milw. Met.	No			(Not Applicable)				12/72
			Annual Reports	-							
Franklin (4B-68-4-6A)	Root River (Trib.)	Secondary (Filter)	Connect to Milw. Met.	No			(Not Applicable)				12/72
			Disinfection	No							8/70
			Annual Reports	-							
Southern Colony	W. Br. Root R.	Secondary (Act. Sl.) Disinfection		No							
Racine County Hwy. & Office (4B-68-4-22A)	Hoods Creek Root River	Secondary (Act. Sl.) Lagoon	Disinfection	No							
Racine (4B-68-4-21A)	Lake Michigan	Secondary (Act. Sl.) Disinfection	Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
			Sewer Sep.	Yes							7/77
			Annual Reports								
Oak Creek (Oakview Subdiv. #3) (4B-68-4-19A)	Trib. Oak Creek	Lagoon	Disinfection	No							
			Connect to Milw. Met.	No			(Not Applicable)				
			Annual Reports	-							

*See Page B-12 for Implementation Schedule Code.

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L.Mich.	Implementation Schedule A	B	C	D	E	F	G
West Bend (4B-68-5-25A)	Milwaukee River	Secondary (Act. Sl.) Disinfection	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
			Clear Water or Adeq. Treatment	No							12/72
			Annual Reports	-							
Grafton (4B-68-5-12A)	Milwaukee River	Secondary (Act. Sl.)	Disinfection	No							5/70
			Clear Water or Adeq. Treatment	No							12/72
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
			Elim. Bypassing	No							7/77
			Annual Reports	-							
Mequon	Milwaukee River	Connected to Milwaukee Met.	None	No							
Thiensville (4B-68-5-24A)	Milwaukee River	Secondary (Act. Sl.)	Disinfection	No							5/70
			Clear Water or Adeq. Treatment	No							12/72
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
			Elim. Bypassing	No							7/77
			Annual Reports	-							
Cedarburg (4B-68-5-5A)	Cedar Creek	Secondary (Trickling Filter)	Disinfection	No							5/70
			Phos. Removal	Yes				9/70	10/70	1/71	11/71
			Adeq. Treatment	No							12/72
			Annual Reports	-							
Germantown (4B-68-5-11A)	Menomonee River	Secondary (Tr. Filter) Disinf.	Adeq. Treatment	No							12/72
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
			Annual Reports	-							
Menomonee Falls (4B-68-5-18A)	Menomonee River	Secondary (Act. Sl., Tr. Filter) Disinf.	Connect to Milw. Met. or	No							
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L.Mich.	Implementation Schedule A	B	C	D	E	F	G
Milw. Metropolitan Sew. Commission (4B-70-5-4)			Combine Sewers & Clear Water	Yes							7/77
			Annual Reports	-							
Jones Island Plant	Lake Michigan	Secondary (Act. Sl.)	Disinfection	Yes							12/71
			Phos. Removal	Yes		*80% Phosphorus Removal Now Provided					12/72
South Shore	Lake Michigan	Primary Disinf.	Secondary	Yes				1/71	6/71	7/71	12/72
			Phos. Removal	Yes		4/70	10/70	1/70	6/71	7/71	12/72
South Milwaukee	Lake Michigan	Primary Disinf.	Secondary	Yes				7/68	6/71	7/71	12/72
			Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
South Milwaukee (Water Treatment) (4B-70-5-6)	Lake Michigan	None	Susp. Sol. Rem.	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Milwaukee (Howard Ave. Water Treatment) (4B-70-5-2)	Lake Michigan	None	Susp. Sol. Rem.	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Milwaukee (Linwood Ave. Water Treatment) (4B-70-5-3)	Lake Michigan	None	Susp. Solids Rem	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Cudahy (Water Trtmt.) (4B-70-5-1)	Lake Michigan	None	Susp. Solids Rem.	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Sheboygan	Lake Michigan	Secondary (Act. Sl.) Disinfection	Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
			Combined Sewers	No							7/77
Port Washington	Lake Michigan	Primary Disinf.	Secondary	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
			Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Cleveland	Centerville Cr.	Secondary (Act. Sl.) Disinfection	None	No							

*The state requirement is 85% phosphorus removal which is to be met with methodology developed through FWQA funded research project.

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L.Mich.	Implementation Schedule A	B	C	D	E	F	G
Kiel	Sheboygan River	Secondary (Act. Sl.)	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
			Disinfection	No							
Sheboygan Falls	Sheboygan River	Secondary Disinf.	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Plymouth	Mullet River	Secondary	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
	Sheboygan River		Disinfection	No							
Chilton (4B-69-7-6)	Manitowoc River	Secondary (Act. Sl. Tr. Filter) Disinf.)	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Manitowoc (4B-69-7-10)	Lake Michigan	Secondary (Trickling Filter) Disinfection	Clear Water Elim. or Adeq. Treatment Rep.	Yes							12/72
			Phos. Rem. Rep.	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Two Rivers	Lake Michigan	Secondary (Act. Sl.) Disinfection	Phos. Removal	Yes				6/69	6/71	7/71	12/72
Maribel	W. Twin River	Septic Tanks	Secondary & Disinfection	No							
Kewaunee	Kewaunee River	Secondary, Disinf.	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Sturgeon Bay	Sturgeon Bay Canal	Secondary (Act. Sl.) Disinfection	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Algoma	Ahnapee River	Secondary (Act. Sl.) Disinfection	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
North Fond du Lac (4B-68-11a-65A)	Trib., Fox River	Secondary (Trickling Filter)	Disinfection	No							
			Clear Water	No							
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
			Annual Reports								

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L.Mich.	Implementation Schedule A	B	C	D	E	F	G
Oshkosh (4B-68-11a-68A)	Fox River	Primary	Disinfection	No							5/70
			Secondary	No							12/72
			Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
			Combined Sewer	No							12/77
			Annual Reports	-							
Fox River Heights Subd., Green Bay	Fox River	Septic Tank Interceptors to Green Bay Met. & De Pere	Const. of Add. Sewers & Interceptor	No							12/72
Portage (4B-68-11a-70AA)	Fox River	Secondary (Trickling Filter)	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
			Annual Reports								
Berlin (4B-68-11a-47A)	Fox River	Secondary (Tr. Filter) Disinf.	Clear Water or Adeq. Treatment	No							12/72
			Phos. Removal	Yes	1/71	3/71	3/71	8/71	2/72	3/72	12/72
			Annual Reports	-							
Ripon (4B-68-11a-74A)	Fox River	Secondary (Trickling Filter)	Disinfection	No							5/70
			Clear Water	No							12/71
			Adeq. Treatment	No							
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
			Annual Reports	-							
Fond du Lac (4B-68-11a-55A)	E. Br. Fond du Lac	Secondary (Tr. Filter) Disinf.	Clear Water & Adeq. Treatment	No							12/72
			Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
			Annual Reports	-							
Neenah-Menasha (4B-68-11a-30A)	Fox River	Secondary (Act. Sludge)	Disinfection	No							6/70
			Adeq. Solids Handling	No							9/70
			Adeq. Treatment	No							9/72
			Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	9/72
			Annual Reports	-							

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L.Mich.	Implementation Schedule						
					A	B	C	D	E	F	G
Tn. Menasna S.D. #4 (4B-68-11a-31A)	Fox River	Secondary (Act. Sl.) Disinfection	Adeq. Treatment	No							3/70
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	9/72
			Annual Reports	-							
Appleton (4B-68-11a-2A)	Fox River	Secondary (Act. Sl.)	Disinfection	No							6/70
			Adeq. Treatment	No							9/72
			Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	9/72
			Annual Reports	-							
Kimberly (4B-68-11a-28A)	Fox River	Secondary (Act. Sl.)	Disinfection	No							6/70
			Elim. Bypass	No							12/70
			Adeq. Treatment	No							9/72
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	9/72
			Annual Reports	-							
Little Chute (4B-68-11a-29A)	Fox River	Secondary (Act. Sl.)	Disinfection	No							6/70
			Clear Water	No							12/70
			Adeq. Treatment	No							9/72
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	9/72
			Annual Reports	-							
Kaukauna (4B-68-11a-23A)	Fox River	Secondary (Act. Sl.)	Disinfection	No							4/70
			Adeq. Treatment	No							9/72
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	9/72
			Combined Sewers	No							9/72
			Annual Reports	-							
De Pere (4B-68-11a-10A)	Fox River	Secondary (Act. Sl.) Disinfection	Adeq. Treatment	No							9/72
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	9/72
			Combined Sewers	No							9/72
			Annual Reports	-							
Green Bay Met. Sewer District (4C-68-11a-2)	Fox River	Secondary (Tr. Filter) Disinf.	Combined Sewers	No							9/72
			Adeq. Treatment	No							
			Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	9/72

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L.Mich.	Implementation Schedule A	B	C	D	E	F	G
Austin-Straubel Airport	Trib. Fox River	Secondary (Act. Sl.) Disinfection	None	No							
Shawano	Wolf River	Secondary (Tr. Filter) Disinf.	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
New London	Wolf River	Secondary Disinfection	Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Shawano Lake San. District	Wolf River	Septic Tanks		No							
Clintonville	Pigeon River	Secondary (Act. Sl.)	Disinfection	No							
			Phos. Removal	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Waupaca	Wolf River	Primary Disinf.	Secondary	No							12/72
			Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Oconto (4B-70-14-3)	Oconto River	Secondary (Tr. Filter)	Disinfection	No							5/70
			Combined Sewers	No							7/77
			Adeq. Treatment & Phos. Rem. Rpt.	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Peshtigo (4B-70-15-4)	Peshtigo River	Secondary (Tr. Filter) Disinf.	Combined Sewers & Clear Water Report	No							6/70
			Adeq. Treatment & Phos. Rem. Rpt.	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Marinette (4B-70-16-3)	Menominee River	Primary Disinf.	Secondary	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
			Phos. Removal	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
			Combined Sewers	Yes							7/77
			Annual Reports	-							

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L. Mich.	Implementation Schedule A	B	C	D	E	F	G
American Motors	Pike River	Oil Separator	Prevent Oil Spills	No							
American Motors (Lakefront Plant)	Lake Michigan	Skimming & Settling	None	No							
Anaconda American Brass Company (4B-68-3-2A)	Lake Michigan	Neutralization	Effluent Limitations on Concentrations of Cn, Cd, Cr, Ni, Cu, Zn, Pb, Fe & Phenolic Compounds	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Wis. Elec. Power Co. (Oak Creek Plant) (4B-68-4-25)	Lake Michigan	Settling, Secondary Activated Sludge	Adeq. Treatment Annual Reports	Yes				3/70		7/71	12/72
J. I. Case Company	Lake Michigan	Chemical Floc. for S.S. and Oil	None	No							
Peter Cooper Corp. (4B-70-5-7)	Lake Michigan	Screening & Primary Treatment	Connect to Milw. Met. Sew. Comm.	Yes		(Not Applicable)					7/70
Peter Cooper Corp. (Water Trt. Plant) (4B-70-5-8)	Lake Michigan	None	Adequately Treat Backwash Waters	Yes	1/71	3/71	5/71	8/71	2/72	3/72	12/72
Edgewood Power Plant	Lake Michigan	Sedimentation	None	No							
Wis. Elec. Company	Lake Michigan	Sedimentation	None	No							
Pine River Dairy Co.	Lake Michigan	Septic Tank & Absorption	None	No							
Hipke Packing Corp.	Centerville Cr.	Lagoon	None	No							

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L.Mich.	Implementation Schedule A	B	C	D	E	F	G
Osman Cheese Factory	Trib. L. Michigan	Septic Tank	None	No							
Two Creeks Dairy	Trib. L. Michigan	Septic Tank	None	No							
Kewaunee Nuclear Power Plant	Lake Michigan	Secondary Treatment Activated Sludge	None	No							
Point Beach Nuclear Power Plant	Lake Michigan	Secondary Activated Sludge	None	No							
Bailey's Harbor Laundry (WP-10-15-101-20)	Lake Michigan	None	Adeq. Treatment or Joint Trtmt.	No							
Gilbert Paper Company (4B-68-11a-15A)	Fox River	Saveall & Met. Sewers	Joint Treatment or BOD & SS Reduction, Semi-annual Report	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
John Strange Paper Company (4B-68-11a-22A)	Fox River	Saveall & Met. Sewers	Joint Treatment or SS Reduction Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
George A. Whiting Paper Company (4B-68-11a-14A)	Fox River	Saveall	Joint Treatment or SS Reduction Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Bergstrom Paper Co. (4B-68-11a-3A)	Fox River	Clarification	Joint Treatment or BOD & SS Red. Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Kimberly-Clark Neenah Division (4B-68-11a-27A)	Fox River	Saveall & Met Sewers	Joint Treatment or BOD & SS Red. Semiannual Rep.	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Kimberly-Clark Badger Globe Mill (4B-68-11a-24A)	Fox River	Saveall & Met. Sewers	Joint Treatment or SS Reduction Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L.Mich.	Implementation Schedule A	B	C	D	E	F	G
Kimberly-Clark Lakeview Mill (4B-68-11a-26A)	Fox River	Saveall & Met. Sewers	Joint Treatment or SS Reduction Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Kimberly-Clark Kimberly Mill (4B-68-11a-25AA)	Fox River	Saveall & Lagoon	Joint Treatment or SS Reduction Semiannual Rep.	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Kimberly-Clark Sewage Treatment Plt.	Fox River	Secondary	None								
Riverside Paper Corp. (4B-68-11a-36A)	Fox River	Saveall	Joint Treatment or SS Reduction Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Consolidated Papers, Inc. (4B-68-11a-9A)	Fox River	Spent Sulphite Liquor Evap.	Joint Treatment or BOD & SS Red. Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Combined Paper Mills, Inc. (4B-68-11a-8A)	Fox River	Saveall and Clarification	Joint Treatment or BOD & SS Red. Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Thilmany Pulp & Paper Company (4B-68-11a-41A)	Fox River	Saveall and Lagoons	Joint Treatment or BOD & SS Red. Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Nicolet Paper Corp. (4B-68-11a-33A)	Fox River	Saveall	Joint Treatment or SS Reduction Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
U.S. Paper Mill Corp. (4B-68-11a-42A)	Fox River	Saveall and Lagoon	Joint Treatment or SS Reduction Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72

WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

Source	Receiving Waters	Existing Treatment	Remedial Needs	Affects L.Mich.	Implementation Schedule A	B	C	D	E	F	G
Fort Howard Paper Co. (4B-68-11a-11A)	Fox River	Saveall & Lagoon	Joint Treatment or BOD & SS Red. Semiannual Rep.	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Fort Howard Paper Co. Sewage Treatment Plt.	Fox River		None	No							
American Can Company (4B-68-11a-1A)	Fox River	Spent Sulphite Liquor Evap. & Lagoons	Joint Treatment or BOD & SS Red. Semiannual Rep.	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Charmin Paper Prod. Company (4B-68-11a-6A)	Fox River	Spent Sulphite Liquor Evap.	Joint Treatment or BOD & SS Red. Semiannual Rep.	Yes -	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Green Bay Packaging, Inc. (4B-68-11a-17A)	Fox River	Fluidized Bed & Clarification	Joint Treatment or BOD & SS Red. Semiannual Rep.	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Paper Converting Machinery Company	Trib. Dutchman Creek	Connected to Green Bay Met.	None	No							
Shawano Paper Mills	Wolf River	Savealls	None	No							
Midwest Breeders	Wolf River	Neutralization & Aeration	Adeq. Treatment Disinfection	No No							
Scott Paper Company (4B-69-14-5)	Oconto River	Savealls & Lagoon Prim. Clarification Sludge Centrifugation Evaporation & Roadbinder Hauling	Preliminary Rep. & Time Schedule for BOD & SS Red.	Yes	5/70	8/70	10/70	1/71	6/71	7/71	12/72

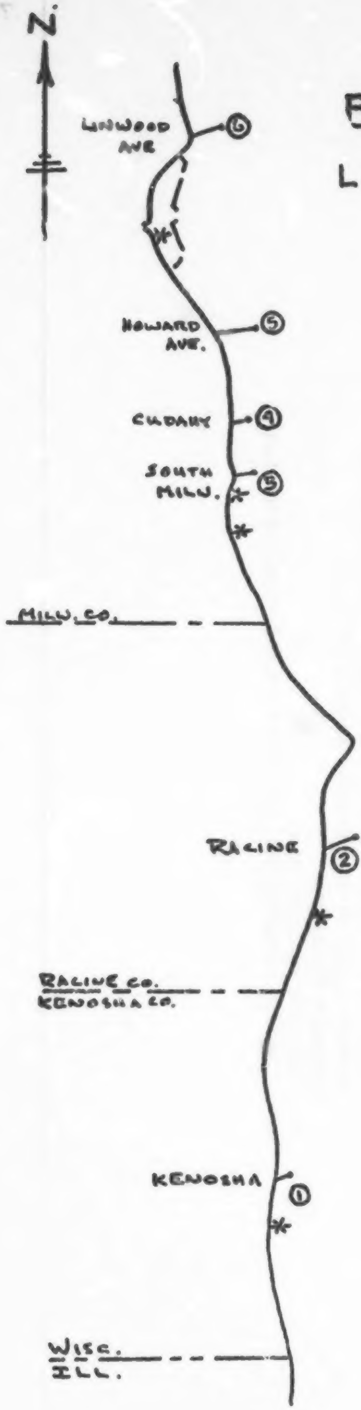
WISCONSIN WASTE WATER SOURCES AFFECTING LAKE MICHIGAN WATER QUALITY

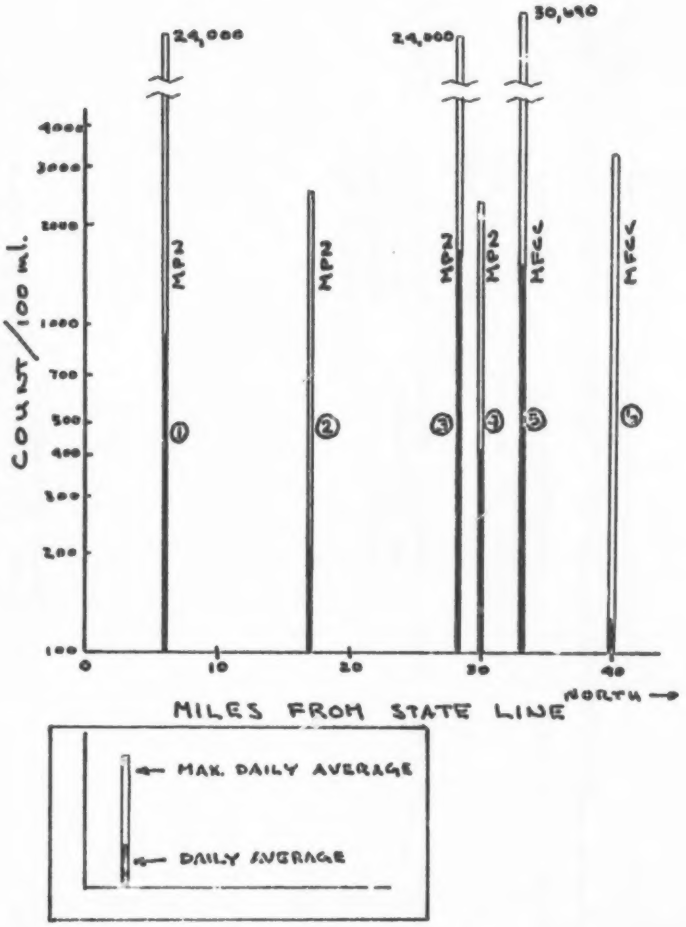
				Affects	Implementation Schedule						
Source	Receiving Waters	Existing Treatment	Remedial Needs	L.Mich.	A	B	C	D	E	F	G
Badger Paper Mills, Inc. (4B-69-15-1)	Peshtigo River	Savealls & Land Disposal	Preliminary Report & Time Schedule for BOD & SS Red.	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72
Scott Paper Company (Marinette) (4B-70-16-5)	Menominee River	Saveralls, Screens and Roadbinder Hauling	Preliminary Report & Time Schedule for BOD & SS Red.	Yes	6/70	8/70	10/70	1/71	6/71	7/71	12/72

A - Retain engineers.
B - Submit preliminary engineering report.
C - Initiate detailed engineering plans and specifications.
D - Submit detailed engineering specifications.
E - Arrange financing.
F - Initiate construction.
G - Complete construction and place in full-time operation.

1969
BACTERIOLOGICAL ANALYSES
LAKE MICHIGAN WATER INTAKES
SOUTHEAST WISCONSIN

* — SEWAGE TREATMENT PLANT





1969 BACTERIOLOGICAL ANALYSES
MPN & MFC COUNTS/100 ML.
LAKE MICHIGAN WATER INTAKES
SOUTHEAST WISCONSIN

	Kenosha (MPN)			Racine (MPN)			South Milwaukee (MPN)			Cudahy (MPN)			Milw.- Howard Ave. (MFCC)			Milw.-Linwood Ave. (MFCC)		
	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.	Ave.	Max.	Min.
.	1,473	24,000	24	378	2,400	22	2,240	24,000	23	1,268	2,400	40	2,648	24,667	3	241	1,255	5
.	1,591	24,000	0	126	540	8	1,786	24,000	23	60	230	90	3,290	26,133	35	13	97	0
.	1,431	24,000	0	90	590	2	-	-	-	420	930	90	1,341	9,367	2	49	384	0
l1	2,807	24,000	0	205	920	8	2,385	24,000	23	852	2,400	40	4,817	30,690	34	50	630	2
	927	24,000	24	28	350	0	755	2,400	23	67	230	40	367	2,800	6	50	298	1
e	169	2,400	0	220	2,400	8	727	2,400	0	85	230	40	459	3,133	6	186	1,900	4
/	223	24,000	24	133	540	22	1,789	24,000	23	590	2,400	90	1,414	19,333	40	172	825	23
.	136	2,400	0	202	920	8	539	2,400	23	135	230	40	1,200	14,867	32	347	3,250	10
r.	700	2,400	24	352	1,600	23	3,361	24,000	23	194	430	40	973	11,966	28	158	598	29
.	117	2,400	0	331	2,500	4							513	7,600	12	100	358	17
.	868	2,400	0	69	350	2							204	2,100	6	52	263	4
.	300	2,400	0	207	920	7							781	8,433	27	119	885	2
ly .	900			211									1,500			128		

MR. STEIN: I would like, before we get into a possible discussion of the major points, to compliment you on the full report on your sources of pollution. Do you know how many sources are listed in the back, Mr. Frangos, about how many?

MR. FRANGOS: Well, 10 a page, and I don't know how many pages.

MR. STEIN: Here, this has been one of the main thrusts--

MR. FRANGOS: Twelve pages.

MR. STEIN: Twelve. That is about 120 sources.

This has been one of the main thrusts for this Executive Session and I think this is what we are achieving. We have 80-odd from Michigan, 120 from Wisconsin, with details such as this with dates on the name of the source, the receiving waters, the existing treatment, the remedial needs, the effects on Lake Michigan, and dates on the following schedule: The retention of engineers, submission of preliminary engineering report, initiate detailed engineering plans and specifications, submit detailed engineering specifications, arrange financing, initiate construction, complete construction and place in full-time operation.

Now, I think with details like that, again, we are very grateful to you for this. This will afford everyone an opportunity to evaluate the progress we are making to move with the remedial schedule.

Let me make one remark before I throw this open.

In the experience that I have had in dealing with Wisconsin, at no time have I ever had any notion that Wisconsin would attempt unilateral action on the changing of a remedial date agreed on between Wisconsin and the Federal Government. I hope we can live up to the same thing.

MR. FRANGOS: Let me offer just an additional comment, Mr. Chairman.

Our position has been throughout this conference proceeding very much along the lines of the expressions that you made at the outset of this session here today and we really have not been concerned with questions of jurisdiction, whether we are talking about interstate waters, this kind of thing. We came in here with the full list of our communities and industries and laid it out. This is what we are going to do and we are prepared to move ahead and there we are.

MR. STEIN: Yes. I have been in this business for a long time, about 25 years, I know; and I am not probably betraying Mr. Klassen's or Mr. Poole's age, but when I started they were around already.

MR. POOLE: You just started late.

MR. STEIN: Yes, I got started late.

But I think we have as complete an inventory on disclosure here as I have seen in any case and I want to compliment you on getting that material in.

Are there any other comments on Wisconsin's statement--questions?

MR. KLASSEN: Yes, I would like to make some comments, Mr. Chairman, because I think I was the one that at least emphasized the point in Milwaukee that quite to our surprise the city of Milwaukee was discharging 200 million gallons of unchlorinated sewage into Lake Michigan. This report, in my opinion, has been a recital primarily of why they are not chlorinating. I don't question that they didn't make a unilateral decision of advancing the date at least a year. We did make a unilateral decision in Illinois without conferring with anybody, but it was the other way. We started year-round chlorination a year ahead of schedule.

And my concern for the State of Illinois is this. The North Shore Sanitary District is chlorinating year-round, has been a year ahead of the schedule that this conference set. In addition, this year provisions are being made to chlorinate the overflow from their combined sewers in an attempt to protect the beaches in the hopes that they could be open this year and this is a temporary arrangement, because as all of you know, the project is under construction to remove all wastes from Lake Michigan in the North Shore Sanitary District.

Now, the statement in Wisconsin's report here that the Jones Island effluent, again I repeat of 200 million gallons a day of unchlorinated sewage, is not affecting Illinois and that the reasons for the Illinois beach pollution is local. I am not questioning this, but this is obviously the kind of a statement that would be made by Wisconsin. To clarify this, we asked the day after the Milwaukee conference for the Federal Water Pollution Control Administration to make an investigation to determine whether or not there is interstate pollution. I don't agree with this statement that it is not affecting Illinois. I don't believe anybody really knows, and this is why we requested the Federal Water Pollution Control Administration to make this investigation and if there is in fact interstate pollution which--in my opinion there is or could be--that the Federal Government take action so that instead of having a report of why they are not chlorinating, I would like a statement as to what they are going to do and when. I think this is more important to this conference than all of the reasons why they haven't done it.

And I will say this, we have received a reply from Federal Water Pollution Control Administration that they felt that negotiating--and these are substantially the words--negotiating with Wisconsin to get this done could probably produce results faster and quicker than a lengthy study and Federal action.

T. G. Frangos

I don't particularly care how it is done, but I think that the Federal Water Pollution Control Administration has got an obligation to the State of Illinois to resolve this and to take whatever action to assure that this coming year some kind, obviously it can't be permanent, but some kind of chlorination will be carried on in Wisconsin, because we are going overboard here in Illinois to chlorinate everything that is going into the lake in the hopes that our beaches can stay open this year.

And I would like to know, frankly, from someone that has the authority to do this whether or not in fact Milwaukee unchlorinated waste is affecting Illinois. If it is, some action should be taken, and if not, somebody should say that it isn't. I have the greatest respect for my colleagues in Wisconsin, but I can't buy this statement that pollution from the Jones Island Plant is not affecting Illinois.

This is all we are asking, that the other States be required to do the same thing and to spend their money and to operate the same as we are here in Illinois.

MR. STEIN: Are there any other comments or questions on this?

MR. FRANGOS: Well, just to respond, Mr. Klassen, my recollection is the same as yours, that you are indeed the person who raised this question in Milwaukee.

And by the way, if you will look in the report, we do tell you what the schedule is, so we have not just told you why we aren't doing it.

But whatever the conference procedures are, if you so desire, we have the people from the Commission here and if there are any questions about the operation or the procedures, they are available to testify in more detail.

MR. STEIN: Any other comments or questions?

MR. KLASSEN: Other than this schedule here on page 5 is permanent, what about instant chlorination?

I am not questioning the operation of the Jones Island Plant, because you state yourself you are not chlorinating and I will accept that. I don't have to go up there to confirm that.

MR. STEIN: Everyone's recollection is that you raised this question in Milwaukee, Mr. Klassen. I think you did too. But I understand I got the credit.

MR. KLASSEN: That is correct.

MR. STEIN: Are there any other comments or questions?

If not, may we go on to Indiana's report.

MR. POOLE: Perry Miller can get to the mike easier than I can, so I am turning it over to him.

MR. STEIN: Right.

PERRY E. MILLER
DIRECTOR OF BUREAU OF ENGINEERING
INDIANA STATE BOARD OF HEALTH
INDIANAPOLIS, INDIANA

MR. MILLER: Mr. Chairman and conferees, we have passed out a supplemental table.

(Which said supplemental table is as follows:)

SUPPLEMENTAL DATA
TO THE
PROGRESS REPORT
FOR
CONFERENCE
ON

POLLUTION OF LAKE MICHIGAN AND ITS TRIBUTARY BASIN
(ILLINOIS - INDIANA - MICHIGAN - WISCONSIN)

RECONVENED MARCH 31, 1970
MILWAUKEE, WISCONSIN

ON BEHALF OF
THE
INDIANA STREAM POLLUTION CONTROL BOARD
AND
THE STATE OF INDIANA

MAY 4, 1970

MUNICIPAL TIME SCHEDULE
LAKE MICHIGAN BASIN - INDIANA
LAKE MICHIGAN ENFORCEMENT CONFERENCE
(ILLINOIS - INDIANA - MICHIGAN - WISCONSIN)

Municipality	Facility Required	Employ Engineer	Submit Preliminary	Initiate Final Plans	Submit Final Plans	Arrange Financing	Initiate Construction	Complete Construction and place in Operation
Gary	Phosphorus Removal	x	x	10/1/70	7/1/71	11/1/71	1/1/72	12/31/72
East Chicago	"	x	x	"	"	"	"	"
South Bend	"	x	x	x	"	"	"	"
	Plant Expansion	x	x	x	x	"	"	"
Chesterton	Phosphorus Removal	10/1/70	2/1/71	4/1/71	9/1/71	12/1/71	4/1/72	"
Crown Point	"	"	"	"	"	"	"	"
Hobart	"	"	"	"	"	"	"	"
Michigan City	"	"	"	"	"	"	"	"
Valparaiso	"	x	x	10/1/70	7/1/71	11/1/71	1/1/72	"
	Plant Expansion	x	x	"	"	"	"	"
Angola	Phosphorus Removal	x	2/1/71	4/1/71	9/1/71	12/1/71	4/1/72	"
Goshen	"	x	"	"	"	"	"	"
Lagrange	"	10/1/70	"	"	"	"	"	"
Ligonier	"	"	"	"	"	11/1/71	1/1/72	"
	Plant Expansion	x	x	x	x	"	"	"

Municipality	Facility Required	Employ Engineer	Submit Preliminary	Initiate Final Plans	Submit Final Plans	Arrange Financing	Initiate Construction	Complete Construction and place in Operation
Nappanee	Phosphorus Removal	10/1/70	2/1/71	4/1/71	9/1/71	12/1/71	4/1/72	12/31/72
Kendallville	"	x	x	5/1/70	9/15/70	12/1/70	1/1/71	9/15/71
Elkhart	"	(Included in plant expansion)						
	Plant Expansion	x	x	x	x	(8/1/70)	(9/1/70)	(12/31/71)
		(Did not meet December, 1969, timetable, but priority for grants issued 3/6/70 - anticipated dates for completion of various steps indicated.)						
Hammond (L. Mich.)	Control and Disinfection of Storm Water	x	x	x	x	--	--	12/31/70
Whiting (L. Mich.)	"	x	x	--	--	--	--	12/31/70
Cromwell	Sewers and Sewage Treatment	10/1/70	2/1/71	4/1/71	9/1/71	12/1/71	1/1/72	12/31/72
Milford Jct.	"	x	x	x	x	"	"	"
Topeka	"	10/1/70	2/1/71	4/1/71	9/1/71	"	"	"

x - This step completed.

In addition to the preceding, the following is pertinent:

1. Effluent Disinfection - Ashley, Goshen, Lagrange, Ligonier, and South Bend were to provide effluent disinfection by May, 1969. Lagrange, Ligonier, and South Bend have submitted plans. Lagrange was issued a priority for grants March 2, 1970; construction is anticipated this summer with completion by October 1, 1970. A Stream Pollution Control Board Order has been issued to South Bend and action on an appeal to the Order is being pursued in Starke County Circuit Court. Enforcement action will be initiated against the other municipalities as soon as practicable.

2. Treatment and Disinfection of Storm Water Overflows - The Implementation Plans provide that East Chicago, Gary, Hammond, and Michigan City provide treatment and disinfection of combined sewer and storm water overflows as soon as practicable. These problems are now under study by these municipalities and their consulting engineers. Timetables for this work will be developed after the work scheduled for completion by 12/3/72 is under construction.

3. Advanced Waste Treatment - The Implementation Plans provide that East Chicago, Gary, Hammond, and Michigan City provide advanced waste treatment as soon as practicable and that Angola, Crown Point, Hobart, and Valparaiso provide necessary facilities by 1977. The additional treatment requirements will be evaluated and timetables developed after the completion of phosphorus removal facilities.

INDUSTRIAL TIME SCHEDULES
LAKE MICHIGAN BASIN - INDIANA
LAKE MICHIGAN ENFORCEMENT CONFERENCE
(ILLINOIS - INDIANA - MICHIGAN - WISCONSIN)

Industry and Location	Employ Engineer	Submit Preliminary	Initiate Final Plans	Submit Final Plans	Arrange Financing	Initiate Construction	Complete Construction and place in Operation
Secondary Treatment or Equivalent							
Angola Reduction Company, Angola	X	X	X	X	6/1/70	7/1/70	12/1/70
Inland Steel Company, East Chicago	Completed facilities being evaluated						
U. S. Gypsum Company, East Chicago	10/1/70	1/1/71	3/1/71	7/1/71	8/1/71	9/1/71	6/1/72
Youngstown Sheet & Tube Company East Chicago	Completed facilities being evaluated						
Continental Can Company, Elkhart	Proposes connection to Elkhart sewerage system when City expands plant for secondary treatment						
Pennsylvania New York Central Transportation Company, Elkhart	Subject to court action requested by Stream Pollution Control Board						
*U. S. Steel Corporation, Gary Works Gary	10/1/70	2/1/71	4/1/71	7/1/71	8/1/71	9/1/71	12/31/72
**Middlebury Coop Creamery, Middlebury	X	10/1/70	12/1/70	3/1/71	4/1/71	5/1/71	12/31/71
*General Products Division, American Motors Corp. (formerly Kaiser Jeep) South Bend	X	10/1/70	12/1/70	3/1/71	4/1/71	5/1/71	12/31/71
*Gentner Packing Company, South Bend	X	10/1/70	12/1/70	3/1/71	4/1/71	5/1/71	12/31/71
***Lehman Veal and Poultry Packers Wakarusa	Completed May 1970						

X Action completed
*Time schedules subject to change under enforcement action now scheduled. Dates indicated are those that will be recommended to the hearing member
**Enforcement action will be requested at the May 19, 1970 Board meeting
***Phosphorous removal also will be required

Industrial Time Schedules (continued)

Industry and Location	Employ Engineer	Submit Preliminary	Initiate Final Plans	Submit Final Plans	Arrange Financing	Initiate Construction	Complete Construction and place in Operation
Advanced Waste Treatment							
Atlantic-Richfield Company, East Chicago	X	X	X	X	X	X	8/1/70
Cities Service Oil Company, East Chicago	X	X	X	X	X	X	7/1/71
American Maize-Products Company Hammond	10/1/70	3/1/71	5/1/71	9/1/71	10/1/71	12/1/71	12/1/72
American Oil Company, Whiting	X	X	X	X	X	X	12/31/70

MR. MILLER: I might say that we in Indiana have included every discharger that we have to the Lake Michigan Basin and some of these are pretty small communities, less than 1,000 people, and some pretty small industries that are pretty well up on the St. Joe River and we would question whether actually chlorination of these and treatment or lack of treatment would really affect Lake Michigan. Nevertheless, they have been included in the table and we have put time schedules on and we have indicated also where we are beyond the dates that were in the plan of implementation.

The table you have, the first table covers phosphorus removal and plant expansions, and we have indicated by an X where the city or industry has already complied or met this particular time schedule and then the dates when we expect the subsequent actions to be taken.

I would like to point out that in the case of Elkhart we are beyond the date and the plan of implementation of Decenber 1969. However, on March 6 of this year a priority for construction grant was issued and the offer made to Elkhart and we expect this one to proceed in accordance with the date that we have included in the expansion, which would be the dates that we think the work can be completed.

In the next two instances of Hammond and Whiting, the Stream Pollution Control Board has held hearings with these two communities and we expect the necessary action to follow in these cases.

Now, at the bottom of this table we have indicated by Item 1 under effluent disinfection those communities which are behind in this category. I would say to you that Lagrange and Ligonier and South Bend have submitted plans, that Lagrange was issued a priority for grants on March 2, 1970, and construction is anticipated this summer to be completed by October 1. The order issued by the Stream Pollution Control Board against South Bend, this is being pursued in the Starke County Circuit Court and the Board at its April meeting asked the Attorney General to proceed as expeditiously as possible and get this case docketed so that we can take action at this time.

We have included statements regarding treatment and disinfection of storm overflows and our original dates, plans of implementation, the advanced waste treatment also.

And following that is a similar table for the industrial plants that we have in the area and we have indicated some of these that we have evaluated since the last meeting of the conference as well as those and the dates for which we are proceeding.

Following the meeting of the conferees in Milwaukee, the Board did, at its April meeting, schedule hearings with U. S. Steel Corporation in Gary, with General Products Division of American Motors Corporation in South Bend, and with Gentner Packing Company in South Bend.

I would say to you that we expect and recommend--expect to recommend, we will recommend and we expect the Board to schedule hearings with all the communities and all the industries that are behind in schedules or that we anticipate may get behind in schedules and proceed with these actions of the Board as soon as possible.

MR. STEIN: Thank you.

Are there any comments or questions?

P. E. Miller

Again I would like to call attention to the fact that while you have some small industries listed here, I think Indiana is peculiarly blessed as some of the industries they have listed are Inland Steel, U. S. Gypsum, Youngstown Sheet and Tube, Continental Can, Penn Central, U. S. Steel in Gary, American Motors, Atlantic Richfield, Cities Service, American Maize and American Oil. I think it is fair to say that as a result of this action. this State-Federal action, we are probably seeing the largest industrial cleanup program in one area that I know of in the country, particularly around Lake Michigan, and this is encouraging. I didn't want the people to get the impression that we were just dealing with small industries.

Are there any comments or questions?

If not, may we go to Illinois.

CLARENCE W. KLASSEN

TECHNICAL SECRETARY

ILLINOIS SANITARY WATER BOARD

SPRINGFIELD, ILLINOIS

MR. KLASSEN: Mr. Chairman, Illinois is probably also peculiarly blessed that we have a very small part of the watershed, although an important part.

On our summary we have three industries with their schedule:

Abbott Laboratories, which will be completed and in operation by December of this year.

U. S. Steel Corporation, the Waukegan Works. They have several of their projects completed. Their last one will be completed about six months ahead of the conference schedule in June 1972.

U. S. Steel South Works will be completed December 1970.

Now, the North Shore Sanitary District, I think as we detailed at the Milwaukee meeting, has under construction a program to remove all wastes from the district from Lake Michigan. There are 39 separate projects involved in this whole program. We have issued permits for, I think, the first seven or eight, they are under construction. We have submitted and--I had suggested this; I realize it might be difficult for some of the other States--filed with the conference a project schedule for all of these 39 projects, when they will start construction, when they did start, the dates of completion. They will all be completed, with one exception, by the fall of 1971, with the exception of the Waukegan plant, which is their main plant, which will be completed by August 1972. All of these dates here--

MR. STEIN: Does that change the date--pardon me--from your chart here? You have June.

MR. KLASSEN: No, no. The Middle Fork sewer, which is not listed here, is a sewer project that will be completed April 1972, but that is the construction of a sewer to take some wastes to the plant. But the plant itself will be completed, the last project, by August 1972, to fall far within the deadline.

I might say since the Milwaukee conference, a lawsuit that was brought about by citizens in Highland Park against the expansion of one of the plants and the construction of the plant listed in here has gone to trial and has been resolved,and a satisfactory mutual arrangement or agreement has been reached between those citizens and the North Shore Sanitary District . We testified in the case, so other than a few minor legal hurdles that are involved in the delay of this, they should proceed on schedule.

The two other sources of pollution, potential sources of pollution, within the district, that I assume will be reported on by the Federal Government, are two military installations, the Fort Sheridan and Great Lakes, which, according to all our information, will be included in the project to remove the effluent from Lake Michigan within this schedule.

(The summary referred to is as follows.)

THE BOARD
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TECHNICAL SECRETARY
CLARENCE W. KLASSEN
CHIEF SANITARY ENGINEER
DEPARTMENT OF PUBLIC HEALTH

ADDRESS LETTERS TO:
STATE SANITARY WATER BOARD
SPRINGFIELD, ILLINOIS
62706

May 7, 1970

LAKE MICHIGAN - FOUR STATE FEDERAL ENFORCEMENT CONFERENCE

TO: Murray Stein, Chairman

The attached detailed list, containing interim dates for compliance with conference recommendations, has been prepared pursuant to your request during the Third Session of the Conference held in Milwaukee, Wisconsin, on March 31, 1970. This list provides dates for the following implementation phases for all dischargers to Lake Michigan.

1. Retain engineers
2. Submit preliminary engineering report
3. Initiate detailed engineering plans and specifications
4. Submit detailed engineering specifications
5. Arrange financing
6. Initiate construction
7. Complete construction and place in full time operation

CWKlassen

C. W. Klassen, Technical Secretary
Illinois Sanitary Water Board
Conferee for State of Illinois

LAKE MICHIGAN - FOUR STATE FEDERAL ENFORCEMENT CONFERENCE
May 7, 1970

COMPLIANCE SCHEDULE INTERIM DATES
DISCHARGERS TO LAKE MICHIGAN IN ILLINOIS

	RETAIN ENGRS.	SUBMIT PRELIM. ENGR. REPORT	START ENG. PLANS AND SPECS.	SUBMIT ENGR. PLANS AND SPECS.	ARRANGE FINANCING	START CONSTR.	START OPERATION
Abbott Laboratories	Feb. 1970	March 1970	April 1970	May 1970	Feb. 1970	June 1970	Dec. 1970
U. S. Steel Corp. Waukegan Works	Feb. 1970	July 1970	Nov. 1970	Feb. 1971	May 1971	June 1971	June 1972
U. S. Steel Corp. South Works	1967	1967	1967	1968	1968	1968	Dec. 1970
NORTH SHORE SAN. DIST.							
North Chicago STW	1967	1967	Jan. 1970	Oct. 1970	1968	Nov. 1970	Oct. 1971
Waukegan STW	1967	1967	June 1969	Nov. 1970	1968	Mar. 1971	Aug. 1972
Lake Bluff STW	1967	1967	Dec. 1969	June 1970	1968	Sept. 1970	Aug. 1971
Lake Forest STW	1967	1967	June 1969	1969	1968	Jan. 1970	Jan. 1971
Highland Park Park Avenue	1967	1967	Aug. 1969	April 1970	1968	July 1970	Oct. 1971
Highland Park Cary Avenue	1967	1967	Aug. 1969	April 1970	1968	July 1970	Oct. 1971
Highland Park Ravine Drive	1967	1967	Aug. 1969	April 1970	1968	July 1970	Oct. 1971

MR. STEIN: Thank you, Mr. Klassen.

Any comments or questions?

MR. MAYO: I have got a question with regard to the U. S. Steel Waukegan Works and the U. S. Steel South Works. I notice that you have start operation dates of June 1972 for the Waukegan Works and December 1970 for the South Works. I would appreciate it if you would take me through the steps as far as the State of Illinois is concerned--

MR. KLASSEN: Which one?

MR. MAYO: For both of those, if you will. --that takes us from the December 1968 completion date for each of those that I have in the February 25, 1969, summary to the start operation dates of June 1972 and December 1970.

MR. KLASSEN: Starting with U. S. Steel South Works, they are in violation of the September 30, 1969, date. We filed a request with the Attorney General on October 7 in regard to this and at the same time requested the Federal Government to join us in this suit for the violation which the Federal Government has rejected. The Calumet enforcement conference had made a request of the Department of the Interior, the Secretary, to file an action against U. S. Steel and this was also rejected.

And I just want to bring you up to date on the legal aspects of this and our Attorney General, who incidentally cooperates with us very closely, has also filed suit against this corporation, as the Chicago Sanitary District has. I think there are a total of six or seven suits filed against them.

But in spite of this, I want to say, and as I repeated in Wisconsin, in spite of all of these suits, the U. S. Steel Corporation South Works is proceeding with its construction schedule and so far as our information is concerned, it is in accordance with this schedule that I am giving you here. They started construction in 1968 and will be completed by December 1970.

What more did you want on that?

MR. MAYO: Well, I was wondering about the procedure that gets us from the December 1968 date to the June 1967 date for the Waukegan Works--I mean to the June 1972 date for the U. S. Steel Works at

Waukegan.

MR. STEIN: Changed that to August.

MR. KLASSEN: Now you are on the U. S. Steel Waukegan Works?

MR. MAYO: Yes.

MR. KLASSEN: This was due to design decisions, construction, and a start of construction now is scheduled for June 1971 for their final outlet. They have taken care already of removing all the pickle liquor from the lake, and these are I don't say minor, but so far as compared to what the previous discharge was they are not in the same category, and it will require this time for them to complete the final construction on their final outlet that involves, I think, some iron going into the lake.

MR. MAYO: What was the nature of the Illinois action that set the June 1972 date?

MR. KLASSEN: The nature of the action? No legal action, if this is what you are talking about, because they are within the conference dates. As a matter of fact, the conference date is December 1972, I think, and this is going to be finished in June 1972.

And if you are quarreling with this date, I call your attention to some of the schedules from the other States that you have approved where they go up to December 1972.

MR. MAYO: I am not quarreling with it.

MR. KLASSEN: O. K.

MR. MAYO: I was just trying to understand it.

MR. KLASSEN: Now, on North Shore Sanitary District, the last of their projects will be diverting their main plant, the Waukegan plant, westward and that will be completed in August 1972, which will again be about four months ahead of the conference schedule for removing everything. We will be the only State that has removed everything from Lake Michigan. And I might say, well, this is a laudable objective, we feel. It has been objected to by some people on the outlet stream where these wastes will go, namely the Illinois River and the Des Plaines River. (Laughter.)

I might add, though, that the water that will be discharged from these plants will be of an exceedingly high quality with complete treatment, tertiary treatment and chlorination.

MR. STEIN: You know, those are interstate streams. Why don't you invite us in on that one, Mr. Klassen, like you did on U. S. Steel?

MR. KLASSEN: Well, the reason we didn't, Mr. Chairman, is that we know when we are licked. We don't want any more rejections. I would say if you will join us on the Calumet River, we would be only happy to refer more cases to you on violations of interstate streams, but you have indicated to us that this is a State of Illinois problem, and we are taking you at your word.

MR. STEIN: What we have indicated to you is you filed a case in the State court and it is the policy generally of the Justice Department not to have the Federal Government join in cases under the jurisdiction of State courts.

But I think, Mr. Klassen, really, if we got a request from the State to clean up the Sanitary Ship Canal and the Des Plaines River and the Illinois River, you might get a favorable response.

MR. KLASSEN: We thought we might on the other one, but we didn't.

MR. STEIN: We will make up for it.

MR. KLASSEN: Is this a change in policy of the United States Attorney General?

MR. STEIN: No, this is not the Attorney General's policy; this is our policy whether we join in in an enforcement case on those rivers.

MR. KLASSEN: O. K.

MR. STEIN: We don't have to go to the Attorney General on that one. We could make that judgment ourselves.

MR. KLASSEN: Why was this judgment, then, made on the Calumet River, which is an interstate stream?

MR. STEIN: The Calumet River, that judgment was made for a court action. If a request is made for us, we get a request for a conference of this type where we make the judgment ourselves.

Again, and I just gave Mr. Purdy a copy of the law to look at, but our law is very clear, when we go to court we have to refer the case to the Attorney General for court action. We don't take that case to court ourselves.

MR. KLASSEN: We won't need your help on legal action on the Illinois River. We are proceeding without it and very successfully.

MR. STEIN: All right. Thank you.

Are there any other comments or questions?

MR. FRANGOS: Yes, Mr. Chairman.

MR. STEIN: Yes.

MR. FRANGOS: Just a point of information.

All of these seven that you list under the North Shore Sanitary District, are they existing treatment plants?

MR. KLASSEN: They are existing treatment plants, yes.

MR. FRANGOS:With outlets to the Lake?

MR. KLASSEN: Yes.

MR. FRANGOS: What is the degree of present treatment, Mr. Klassen? I know you have given us that information before.

MR. KLASSEN: Yes. Five of the seven are primary treatment with chlorination.

MR. FRANGOS: I see. And on the other two secondary chlorination?

MR. KLASSEN: Yes, with chlorination.

MR. POOLE: What are those two?

MR. KLASSEN: North Chicago and Waukegan.

MR. POOLE: They are the bigger ones?

MR. KLASSEN: Yes.

MR. FRANGOS: Thank you.

MR. STEIN: Are there any other comments or questions on that?

And thank you for that report. I think, again, Illinois may be peculiarly blessed, because if you look at the map a good portion of the greater Chicago drainage does not go into Lake Michigan and goes the other way. However, I do say, Mr. Klassen, I think you have addressed yourself to every source other than those which were going into Lake Michigan, and I think your plans and the prognosis you have for the treatment are very good, and I think we are on our way there. I expect on backing you that you will be the first State to have every source fully cleaned up and will get the brass ring or something.

Are there any other comments or questions?

If not, I think this accomplishes a major purpose and a first one, [illegible] I think all the States have come forward with their detailed analyses point by point of every source in the basin, dates for final completion and interim dates for every source. This, of course, is a matter of public record and will be made available to all so we can all judge the progress.

Now, does anyone want to address themselves at this time to the other question that we had brought up here and that was the question of thermal pollution?

Yes, Mr. Purdy.

MR. KLASSEN: Is Mr. Purdy going to comment?

MR. PURDY: Yes.

MR. STEIN: Yes.

MR. KLASSEN: All right.

MR. PURDY: Mr. Chairman, we have held some recent hearings in Michigan on temperature standards and came prepared today to discuss a number of factors. However, the statement that you presented at the start of this conference I think indicates the frustrating experience that we of the States, at least we in Michigan, have had on this temperature matter. And as we approach something that we feel we can take into a public hearing and hopefully adopt as a standard, we have something new placed before us, so again we have something new today to consider and haven't had an opportunity to review it in detail.

But on April 10 we did receive a letter from Mr. Mayo indicating that at the time of their hearing or our hearing they had not completed their review of Lake Michigan waters and stated that other values would be submitted to our Commission within 30 days of the hearing and that they were now proposing completed temperature criteria for the Lake Michigan Basin. It is our intention to use these criteria as the basis for consideration of revised temperature criteria for Lake Michigan and its basin by the conferees at the forthcoming Executive Session of the enforcement conference.

There are a number of details contained in this recommendation and in fact there were recommendations made with respect to temperature rise, mixing zone, and so forth.

Following that letter there was a meeting in Ann Arbor to attempt to resolve current differences between the States of Indiana, Illinois, Michigan and Wisconsin relative to temperature standards. And at that meeting it was agreed that the States and the FWQA would tabulate existing temperature data and determine monthly water temperatures for Lake Michigan which would be equal to or less than the value of 90 percent of the observations and that this information would serve as a basis for discussion at the Executive Session of the Lake Michigan conference on 5-7-70 in Chicago.

Now, this meeting took place on April 16. Between April 16 and today we have made an analysis of 23,664 temperatures from eight Lake Michigan water intakes in Michigan unaffected by heat discharges and 306 shoreline temperatures from 20 swimming beach stations. This represents a great deal of work on our part. It appears that this might be somewhat useless work now in that the ground rules have changed again.

(Which said water temperature data is as follows:)

Michigan Water Resources Commission
Bureau of Water Management
Department of Natural Resources
5-6-70

Lake Michigan Water Temperature Data

Michigan's water quality standards for temperature have not been accepted by the Secretary of the Interior.

In an effort to resolve current differences among the States of Indiana, Illinois, Michigan and Wisconsin relative to temperature standards for Lake Michigan representatives of the Federal Water Quality Administration met with State water agency personnel on April 16, 1970 in Ann Arbor. At that meeting it was egreed the States and FWQA would tabulate existing temperature data and determine monthly water temperatures for Lake Michigan which would be equal to or less than the value of 90% of the observations. This information would serve as a basis for discussion at the Executive Session of the Lake Michigan Enforcement Conference 5-7-70 in Chicago.

Michigan's contribution contains appropriate analysis of 23,664 temperatures from eight Lake Michigan water intakes in Michigan unaffected by heated discharges and 306 shoreline temperatures from 20 swimming beach stations. Data are presented in three tables as a basis for further deliberations by our sister States and the FWQA.

Carlos Fetterolf
D. James Seeburger
Water Quality Appraisal Section

Table 1. Water temperature data, Lake Michigan water intakes. 90% frequency indicates temperature was equal to or less than value shown for 90% of the observations.

A. St. Joseph; depth, 19'; distance offshore, 1490'. Period of record analyzed, Jan. 1960-March 1970.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Observations	341	283	341	300	310	279	310	310	300	310	300	310
Max. temp.	39	36	42	52	65	74	77	80	76	65	56	44
Min. temp.	32	32	32	32	45	40	44	45	47	49	37	32
90% freq.	34	34	38	48	56	67	74	74	72	62	53	40

B. Benton Harbor; depth, 40'; distance offshore, 3,375'. Period of record analyzed, Jan. 1960-March, 1970.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Observations	310	311	331	340	309	300	310	310	298	310	299	309
Max. temp.	39	39	44	51	60	70	77	77	76	65	59	48
Min. temp.	33	32	33	34	45	44	46	49	48	51	38	33
90% freq.	37	36	39	48	55	65	72	73	70	63	55	43

C. Holland; depth, 36'; distance offshore, 4,240'. Period of record, Jan. 1960-Feb. 1970

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Observations	341	311	310	300	310	300	310	310	300	309	299	310
Max. temp.	43	36	40	48	57	69	73	76	75	65	56	49
Min. temp.	33	33	33	34	43	43	42	44	45	47	41	33
90% freq.	36	35	38	45	53	62	68	71	70	62	54	44

D. Grand Rapids; depth, 55'; distance from shore, 6,200'. Period of record analyzed, July 1963-Dec. 1969.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Observations	186	150	186	180	186	180	216	217	210	216	198	217
Max. temp.	38	35	39	47	57	69	73	75	73	64	55	45
Min. temp.	32	32	32	32	42	41	39	40	42	41	41	30
90% freq.	35	34	36	44	52	61	68	71	67	62	54	42

E. Muskegon; depth, 50'; distance from shore, 7,200'. Period of record analyzed, Jan. 1960-Feb. 1970.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Observations	337	313	309	299	309	299	309	309	299	309	299	309
Max. temp.	37	37	40	48	60	71	77	75	78	65	56	49
Min. temp.	32	32	33	34	41	42	41	40	43	44	43	33
90% freq.	35	34	37	45	54	62	69	72	71	63	54	44

Table 1. continued

F. Ludington; depth, 38'; distance from shore, 3000'. Period of record analyzed, Jan. 1960 - Feb. 1970.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Observations	342	311	310	300	319	240	310	319	300	310	300	310
Max. temp.	39	35	40	46	55	68	73	74	74	63	53	47
Min. temp.	31	32	32	33	37	41	41	42	42	44	40	32
90% freq.	35	34	36	43	50	59	69	70	70	60	50	42

G. Traverse City; depth, 34'; distance offshore, 1700'. Period of record analyzed, Jan. 1966 - Dec. 1967.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Observations	57	56	62	60	56	60	62	62	60	62	60	62
Max. temp.	43	38	37	42	46	60	80	69	68	61	53	46
Min. temp.	35	34	34	35	38	42	42	56	40	42	41	36
90% freq.	42	36	36	39	45	58	76	69	68	59	51	46

H. Big Rock; depth, 27'; distance offshore, 1451'. Period of record analyzed, May 1963 - Feb. 1970.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Observations	216	163	168	133	150	168	165	177	185	172	200	194
Max. temp.	42	39	45	41	47	68	70	72	72	64	55	46
Min. temp.	31	30	30	31	33	40	47	43	45	43	38	33
90% freq.	40	37	37	40	44	55	66	69	68	61	52	42

Table 2. Lake Michigan water intake temperatures equal to or less than value of 90% of the observations.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
A. Group A. South of Pentwater												
St. Joseph	34	34	38	48	56	67	74	74	72	62	53	40
Benton Harbor	37	36	39	48	55	65	72	73	70	63	55	43
Holland	36	35	38	45	53	62	68	71	70	62	54	44
Grand Rapids	35	34	36	44	52	61	68	71	67	62	54	42
Muskegon	35	34	37	45	54	62	69	72	71	63	54	44
Average	35.4	34.6	37.6	46	54	63.4	70.2	72.2	70	62.4	54	42.6

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
B. Group B. North of Pentwater												
Ludington	35	34	36	43	50	59	69	70	70	60	50	42
Big Rock	40	37	37	40	44	55	66	69	68	61	52	42
Average	37.5	35.5	36.5	41.5	47	57	67.5	69.5	69	60.5	51	42

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
C. Group C. Traverse Bay												
Traverse City	42	36	36	39	45	58	76	69	68	59	51	46

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
D. Grand average	36.8	35.0	37.1	44.0	51.1	61.1	70.25	71.1	69.5	61.5	52.9	42.9

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
E. Av. So. of Pentwater	35.4	34.6	37.6	46	54	63.4	70.2	72.2	70	62.4	54	42.6
Ave. No. of Pentwater	37.5	35.5	36.5	41.5	47	57	67.5	69.5	69	60.5	51	42
Difference	-1.9	-0.9	+1.1	+4.5	+7.0	+6.4	+2.7	+2.7	+1.0	+1.9	+3.0	+0.6

F. Assumption: Since the average depth of the five water intakes south of Pentwater is 40 feet and the average depth of the two water intakes north of Pentwater is 31.4 feet it may be assumed that surface water temperatures will be warmer during the months of April through September.

Table 2. Continued

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
90% freq. temps. South of Pentwater	35.4	34.6	37.6	46	54	63.4	70.2	72.2	70	62.4	54	42.6
MWRC staff conclusion for temps. south of Pentwater for open waters considering increase for surface waters	37	35	38	48	57	67	73	75	73	63	54	43
90% freq. temps. North of Pentwater	37.5	35.5	36.5	41.5	47	57	67.5	69.5	69	60.5	51	42
MWRC staff conclusion for temps. north of Pentwater for open waters considering increase for surface waters.	37	35	37	43	50	60	71	73	72	61	51	42

G. In a letter from FWQA Regional Director Mayo to Ex. Sec. Purdy on 4-10-70 the following daily surface water temperatures not to be exceeded were recommended for inshore waters of Lake Michigan.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	42	37	37	44	53	65	72	77	75	65	54	50
	x*	x	x	4°S	4°S	2°S	1°S	x	x	x	x	x
90% freq. temps. for 8 Mich. intakes	36.8	35.0	37.1	44	51.1	61.1	70.3	71.1	69.5	61.5	52.9	42.9
MWRC staff conclusion for open water temps. considering increase for surface addition, all of Lake Michigan	37	35	37	46	54	65	74	74	73	63	54	43

* If the FWQA temps apply to offshore waters we accept those with an x below them. Numbers below FWQA recommended figures indicate additions needed, letter indicates area addition is needed, north or south. See Table 3 for MWRC staff conclusions for inshore waters.

Table 3. Water temperatures, shore sampling, Lake Michigan.

A. Beach sampling program south of Pentwater, 1965-1968, 14 stations.

	June	July	Aug.	Sept.
Max. temp.	75	79	77	75
Min. temp.	55	53	57	50
90% freq.	75	77	75	70
# of observations	47	75	95	20

B. Beach sampling program north of Pentwater, 1965-1968, 6 stations.

	June	July	Aug.	Sept.
Max. temp.	73	75	75	64
Min. temp.	51	54	52	64
90% freq.	64	73	73	64
# of observations	18	37	51	1

C. Beach sampling program, combined stations, 1965-1968, 20 stations.

	June	July	Aug.	Sept.
Max. temp.	75	79	77	75
Min. temp.	51	53	52	50
90% freq.	74	75	75	70
# of observations	65	112	146	21

D. Beach sampling program, combined stations, 1965-1968, 20 stations.

	June	July	Aug.	Sept.
90% frequency	74	75	75	70
FWQA recommendation	65	72	77	75
for inshore waters*	+9	+3	x	x

* x indicates acceptable, number indicates increase needed.

E. Beach sampling program, combined stations, 1965-1968, 20 stations.

	June	July	Aug.	Sept.
90% frequency	74	75	75	70

8 water intakes, combined for Lake Michigan

	June	July	Aug.	Sept.
90% frequency	61.1	70.3	71.1	69.5

General Discussion

MR. KLASSEN: Mr. Chairman.

Pardon me, Ralph.

MR. PURDY: I am certainly willing to take the recommendations of the two Assistant Secretaries back to my Commission for their consideration and to have them give guidance to me on the position that they wish to take. I am mindful, though, of the fact that following the first session of this conference that a Technical Committee was appointed to study the problem of radioactivity and thermal discharges into Lake Michigan. If I remember correctly, that Committee came back with a report that they did not feel that there would be a temperature problem in the lake as a whole from the present and proposed powerplant installations, that there could be problems within the local areas. This may raise a question as to whether the thermal discharges are of interstate nature and affecting the health and welfare of a person other than the State in which they originate.

However, this conference would serve as a good vehicle to consider standards by all four States and to arrive at that late recommendation. But within the statute it points out that the "standards of quality established pursuant to this subsection shall be such as to protect the public health or welfare," and also to "enhance the quality of water and serve the purposes of this Act" and that "in establishing such standards the Secretary, the Hearing Board, or the appropriate State authority shall take into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses."

In view of the recommendations made today, it seems that even if a State reached the conclusion that in a small limited area there would be no injury to fish and aquatic life and that some heat discharge could enhance the utility of these waters for bathing purposes and extend the swimming season at some of our public bathing areas, that this still would not be allowed. So we are placed in a very restrictive area as to what we can consider for a standard.

I also note that in the statute that if there is a violation of the standard there is a procedure to be followed, of course, and that in the court's review of the violation of the standard that the court should give due consideration to the practability and to the physical and economic feasibility of complying with such standards. I would be most interested in having, say, the technicians within the FWQA present to this conference, to the conferees, the necessity of such a recommendation as we received today from the standpoint of protecting the health and welfare and also to the practability and to the physical and economic feasibility of complying with such standards.

MR. STEIN: Are there any comments?

Mr. Klassen.

MR. KLASSEN: Mr. Chairman, I am making a verbal request, and I will follow it up in writing to the Secretary.

The State of Illinois, like the other States, submitted criteria for water quality in accordance with the Federal Act and these were approved by the Secretary of the Interior January 27, 1968, and I am making a verbal request and will follow it in writing:

Will the Secretary now send the State of

Illinois the new requirement based on this statement so the Illinois Sanitary Water Board can adopt this new requirement and get on with the enforcement?

This comes at an opportune time so far as the Sanitary Water Board of the State of Illinois is concerned, because as I indicated, the Sanitary Water Board has not--and I emphasize not--issued any permits for the Zion nuclear powerplant, either for radioactive discharge or for cooling water discharge. I am assuming, and I think I am correct because we have pretty good knowledge of what is being proposed, that the Zion nuclear powerplant cannot discharge cooling water as proposed into Lake Michigan under these regulations. They are awaiting our answer. With the Sanitary Water Board adopting these and this becoming officially the Illinois standards, then we can advise Zion Commonwealth Edison immediately that no permit will be issued.

This is the reason why I am making this request, because I think we have every obligation to advise that company that under the new rules there will be no permit issued because we know that it would be in violation of these. And when and if these are adopted, obviously we will enforce them. (Applause.)

MR. STEIN: Are there any other comments? Mr. Poole.

MR. KLASSEN: I just want to add--

MR. STEIN: Pardon me; I am sorry.

MR. KLASSEN: I just want to add to this, we have two other fossil fuel plants in Illinois now discharging to the lake and I understand that one is at Waukegan and the other I think is State Line Plant, I think it is in Illinois.

Is that in Indiana?

MR. MILLER: That is in Indiana.

MR. KLASSEN: O. K., then we only have one.

But in addition to the nuclear powerplants, there are other discharges from some pretty important facilities that are going into Lake Michigan that will be in violation of this, but we will face those when we get to them.

MR. STEIN: Thank you, Mr. Klassen.

You know, Mr. Klassen, you have been fooling me for years with those pregnant pauses of yours, and I knew what would happen, that one of these days we would have children in the audience. (Laughter.)

MR. KLASSEN: I didn't hear. I missed some of this, Mr. Stein.

MR. STEIN: I said you have been fooling me for years with one of these pregnant pauses of yours where I think--

MR. KLASSEN: I didn't understand you.

MR. STEIN: Pauses.

MR. KLASSEN: Pregnant pauses?

MR. STEIN: Yes, where I think you are finished and you pause.

MR. KLASSEN: Oh.

MR. STEIN: Then you see what happens, we have babies.

MR. KLASSEN: I never want to miss any of your words of wisdom, Mr. Chairman. (Laughter.)

MR. STEIN: Mr. Poole.

MR. POOLE: Well, I think Mr. Purdy pretty well expressed my views at the moment on the overall temperature situation. We had come here today prepared to discuss the proposals of the Regional Office with respect to Lake Michigan, and in view of the policy statement which you read to us this morning I am in no position to do that today. This has to go back to my Board and to my Governor before we can go any further with respect to a position.

I have a second problem, however, that hopefully we might resolve today and that is with respect to the temperature on the St. Joe River. I will have to apologize to Wisconsin and to Illinois for boring them with this now.

But as Mr. Purdy indicated, Michigan held their hearings a few weeks ago and we held our hearing yesterday. Our hearing yesterday was intended to cover everything that involved the State of Indiana except Lake Michigan. Like Illinois, we had even an earlier approval of our Lake Michigan standards from the Secretary and I now want to know if this is being rescinded in view of the policy statement.

I think what we put to the hearing yesterday with respect to St. Joe was identical with what the Michigan hearing covered. I had previously been advised by Mr. Mayo that his Regional Office had ideas for different temperatures for the St. Joe than what we considered yesterday. We had Dr. Mount of the FWQA as one of our main witnesses yesterday, and I am sorry that I didn't bring his prepared statement with me in the rush to get away yesterday. But I remember distinctly that he concluded his remarks by saying that in his judgment the temperature standards which we had proposed--incidentally, there was one standard for the main stem of the Ohio River, another for the St. Joe River, which, as I said, is identical to Michigan's, and finally one for the rest of the waters of the State except Lake Michigan--Mount concluded that in his opinion these temperatures would provide reasonable protection for aquatic life.

I am asking first now to Purdy, what is the latest thing from Michigan and what came out of your hearing with respect to the temperature proposals for the St. Joe or the southern Michigan streams?

MR. PURDY: Mr. Poole, our hearing record was left open for some 30 days for additional comments and we did receive additional comments from Mr. Mayo within this 30-day period and they did send in revised temperature standards which they were recommending. I think again your comments there with respect to the testimony of Dr. Mount emphasize the feeling that I have and I feel like I am in a revolving door on this temperature standards bit.

For example, in our hearing the temperature standards that we had proposed and sent out for consideration had the word "ambient" in them. The Federal testimony at our hearing changed "ambient" in every instance to "natural." They objected to "ambient." Yet the statement that we have received this morning I note says "rise over ambient."

I am confused as to where we are going.

MR. STEIN: Well, let me tell you, as far as I am concerned. there is no difference. Substitute "natural" if you feel better.

MR. POOLE: Ours was not identical to Michigan, then. We had "natural" instead of "ambient."

MR. STEIN: Well, I think that is what the Fish and Wildlife people like, the word "natural." I don't have any objection to that phrase.

MR. POOLE: I am not trying to put anybody on the spot. Like Michigan, we left our hearing open yesterday for 10 days. Now, as I recall the hearing, and there were a lot of witnesses, the power companies objected to the proposal, saying it was too high. I think everybody else either endorsed the proposal or there were some people that even in a general way asked for more stringent temperature standards.

But candidly I don't know what in the hell Indiana and Michigan are going to do about the St. Joe River.

MR. STEIN: Well, again I think we will work it out.

By the way, let me say, again, I have been through this temperature bit quite often in the past few months. There are a lot of differences here, like in many other fields, which are only different to another purist. As far as I am concerned, the difference between "ambient" and "natural" falls within that category. I can't find a bit of difference myself.

MR. PURDY: One further item that I would like to bring up, Mr. Chairman, is this matter of the one degree temperature rise and no mixing zone. Does this contemplate that if we have a treated municipal effluent into Lake Michigan that we are going to require cooling of this during the winter months? Because it will add more than one degree.

MR. STEIN: I think Mr. Klassen asked that question very early in this meeting, whether this applies to all sources, municipal and industrial, temperaturewise, and I answered then as I read the statement, yes, it does. And I think that is what it says. (Laughter.)

MR. PURDY: This would apparently mean the storm water runoff too.

MR. KLASSEN: I interpret it everything.

MR. STEIN: I can't see an exception for the municipal waste during the wintertime.

MR. PURDY: Well, again I would like to hear the testimony on the necessity and the practicability

MR. STEIN: That is right. Again I think you have to recognize--and I have been dealing with our fish and wildlife and other people--I don't know that anybody has a right to take water out of a lake at one temperature and return it to the lake at any different temperature. Maybe there is such a right. I haven't heard about it.

MR. KLASSEN: I do want to call your attention to one problem that involves all of the States. A strict interpretation of this is the water purification plants that are taking water out of the lake, they retain it in the plant for five or six hours, and then the backwashing, the discharge of that same water back into the lake, will violate this.

But we will enforce it if you require it.

MR. STEIN: I have always been suspicious of that backwash in the water treatment plants.

MR. POOLE: Just for the record, we might let you enforce it if you require.

MR. STEIN: Well, that would be very interesting. If we get such a request from a Hoosier, it will be the first time and I think we have made history. (Laughter.)

MR. MACKIE: Mr. Chairman.

MR. STEIN: Yes.

MR. MACKIE: I note that this is a policy position by Assistant Secretary Klein and Assistant

Secretary Glasgow. Our question is, is this an official position of the Secretary of the Interior? And if so, what does it mean to this conference in terms of enforcement?

MR. STEIN: Well, here, I can only answer with the statement which was given to me this morning. And I don't know that I can go beyond that. But I can guess, at least in the assumption that I make to answer that question, and I place this as my assumption, when an Assistant Secretary speaks he speaks for the Secretary and the Department,and I have gotten this statement from two Assistant Secretaries.

MR. MACKIE: In other words, this is the official position of the Department?

MR. STEIN: No, I have told you what my view of this is. I have no further information than that statement,and that it was developed and is to be attributed to the two Assistant Secretaries I have indicated. If you want my personal interpretation of what it means when an Assistant Secretary speaks, he speaks for the Secretary of the Department.

MR. MACKIE: Would you find that out, please, and let us know?

MR. STEIN: Well, as far as I am concerned, that is what it is. But the only further information I can give you, Mr. Mackie, is to see if the Secretary is going to endorse it himself. But I think you can presume that when an Assistant Secretary makes a statement he is speaking with the full legal and political authority of our Department.

Are there any other comments or questions?

MR. FRANGOS: Yes. Mr. Stein, I think we share some of the concerns that were expressed by some of the other States, and it seems to me one is the problem with getting some certainty as to what the requirements are so that we can proceed in administering this at the State level; and secondly some of the questions on the technical side.

But I am wondering, at least if it is your view, how a policy statement of the Department impinges legally on this conference. Does this mean that the Department will then proceed with every administrative and legal device to make it so?

MR. STEIN: I think the answer to your

question is yes. Obviously the policy statement is the one which is traditionally made by the Secretary and the Assistant Secretaries. Certainly in the Department of the Interior the Assistant Secretaries make the policy statements. Then it is up to--I don't know what you call yourself, but at least some people call me a professional, other people call me a technician, maybe I am a little of both, I don't know--but it is up to me to try to work this out with the States and the other people. You are as familiar at this point with the directive that I have as I am, because I have withheld nothing. You do have everything that I have heard.

MR. KARAGANIS: Mr. Stein.

MR. STEIN: No, I am sorry.

MR. KARAGANIS: I am not here to speak in a public capacity. I am here--

MR. STEIN: I am sorry, we will not take statements from the floor. We have a procedure here and I am asking you to adhere to that.

MR. KARAGANIS: Mr. Stein, I am speaking as a Special Assistant Illinois Attorney General to make clear to the conference here. there has been some question raised as to the position of State officials as to the proposed regulation by the Department of the Interior. And I am here to say that the interpretation on what the responsibility of those who would change the condition of Lake Michigan waters that you have made here today is consistent with the opinion of the Illinois Attorney General. That is, that if somebody proposes to change the condition of the water taken from the lake, it is incumbent upon them to justify the feasibility and quality of that position, and it is not incumbent upon a regulatory agency to justify restricting such change.

MR. STEIN: Right. Now, I know as a representative of the State and your State Attorney's office you are as interested in as complete a record as I am. Would you care to give you name to the reporter?

MR. KARAGANIS: Yes. My dilemma in this is that there appears to be a dichotomy between the State s opinions on this matter and the Federal Government's opinions on this matter.

I didn't intend to make this statement, but on behalf of Attorney General William Scott. My name is Joseph Karaganis and I act in some of the cases referred to by Mr. Klassen as a Special Assistant Illinois Attorney General.

And the position of the Attorney General again, may I state, is that if you are going to change the quality of any body of water, that it is incumbent upon you to justify the feasibility of the process and the safety of the process, and not incumbent upon the regulatory agency to show you that their regulation prohibiting you from such change is justified.

MR. STEIN: Thank you. I think that is an accurate statement of the law and one we have held all the time, but we are glad to have it stated.

Are there any other comments?

MR. PURDY: Mr. Stein, to that point I would have to say that there is a Supreme Court decision in the State of Michigan that has held that the burden of proof is upon the State agency.

MR. STEIN: The burden of proof for violating a law. But I have looked at the State and Federal law for a quarter of a century, and I see no inherent right of anyone--industry, city, any citizen--to take any water, do what he wants to that water and dump it back into a public watercourse. That just doesn't exist. And the notion that a Federal agency or a State agency or a regulatory agency should have to justify someone turning back a natural resource as clean as it is and put the burden on them rather than those who use it, it is a very interesting one. (Applause.)

Are there any other comments or questions?

Are there any other matters the conferees want to take up?

MR. KLASSEN: The next date we are going to meet in Michigan.

MR. STEIN: Oh, yes.

MR. KLASSEN: Make it soon

MR. STEIN: Yes, we will try; and I am sure again experience has shown that we can best set the dates when we get back to our office and check them rather than attempt to do it here.

But I have a telegram now. We have several more citizens that have indicated that they would like to talk and we probably will have to go into the afternoon if we are going to hear them.

MR. POOLE: I have one other matter I want to take up.

MR. STEIN: Yes. May I do this first?

MR. POOLE: Yes.

MR. STEIN: I have a telegram here saying:

"I urge the FWQA to hold hearings on the determination of standards for the regulation of the nuclear power station at Zion, Illinois, at which citizens groups and others may testify. The irreparable harm that could be done to Lake Michigan, to our citizens and to the children of our citizens makes it imperative that those who will be most affected by the standards which are set for Zion plants be allowed to speak at these hearings and to have a voice in what those standards will be."

Signed by Congressman Abner J. Mikva.

(Applause.)

Mr. Poole.

MR. POOLE: Well, I want to raise a question about the dredgings. I don't believe from some of the discussion we had just before we convened that I am up to date. But my Governor got a letter dated April 28, and I am assuming the other Governors did, from General Watkins of the Corps of Engineers, with reference to the entire program for 1970 for disposal of dredgings from the Great Lakes. The gist of the letter was--and I should remind you all of what you already know and that is these conferees, I believe, have consistently taken a position against the disposal of polluted dredgings into the lake, and this has been the formal position of the Indiana Pollution Board for either three or four years now--the gist of this letter of April 28th to Governor Whitcomb was that there were only two areas in Indiana where dredging was proposed for 1970, namely the Michigan City Harbor, and that would be disposed of in a confined disposal area. The second one was in the Indiana Harbor Ship Canal, and our letter indicated that it would be the policy of the Corps not to dredge the canal in 1970 unless appropriate land disposal or confined disposal could be provided.

Now, I understand from an article in the paper and a discussion with Mr. Mayo and Mr. Purdy that possibly that has been switched around since April 28 and the current Corps proposal is that they will utilize open lake disposal unless the Governors react to the contrary. I can't do anything in view of the position of my Board but to recommend to our Governor that we still maintain our position that no polluted dredgings should be deposited in Lake Michigan.

But I do think that it is worth these conferees discussing here, and we ought to decide whether we want to reiterate our earlier position or just what we do want to do.

MR. STEIN: Well, let me get the factual issue. I don't think unless the dredging is going to take place some place in Indiana Harbor, that I don't know about, that the dredgings are going to be classified as polluted dredgings.

MR. POOLE: You think they are going to be?

MR. STEIN: Yes.

MR. POOLE: I agree with you.

MR. STEIN: All right.

Are there any other comments? Do you have any other information on that, Mr. Mayo?

MR. MAYO: I believe--

MR. KLASSEN: I would like to ask a question.

MR. STEIN: Yes.

MR. KLASSEN: Where in Lake Michigan at the present time are there areas in which dredgings are deposited? Now, we have not issued any permits for any dredging in the State of Illinois to go into that area that I understand has congressional approval, part of which is in Illinois and part in Indiana. So far as we know, there has been nothing deposited in the Illinois sector, but are there areas in other States, that is offshore in Michigan and Wisconsin, where this is taking place? I would like to know.

MR. MAYO: Yes, I am sure there are. The Corps in its report on the dredging schedule has included a map that gives the location of the offshore sites the Corps has been using for the disposal of dredgings.

MR. POOLE: Well, in answer, I don't know what the Corps' policy in the State of Illinois is, but they have refused to get State permits in Indiana for the projects which they contract for, and this has been a moot question between our Department of Natural Resources and the Corps for the last several years. But if the policy in Illinois is the same, it doesn't make any difference, they wouldn't request a permit.

MR. STEIN: Mr. Klassen.

MR. KLASSEN: The policy is the same. The Corps has not requested any permits from the State of Illinois. My question is really directed to the areas in Wisconsin and in Michigan, whether they are now being used or intend to be used for the disposal of dredgings of polluted material and, if so, what jurisdiction or control does the State of Wisconsin or Michigan have over those dredgings like we do. This is a point of information.

MR. STEIN: Mr. Frangos.

MR. FRANGOS: Well, our position is identical to yours--that the Corps has essentially preempted our rights for issuing of permits and they don't come to us either.

MR. KLASSEN: They haven't preempted us. They not only don't request permits, but they haven't dumped. Now, have they dumped in Wisconsin?

MR. FRANGOS: Sure, they have. In comment to the recent developments, we have not had a chance to see any of this communication in our State, and we have things that I am interested in. You may recall that at the last session the decision on which way this thing would go in terms of dredging projects for this year had not come in yet, and we haven't got it yet, Mr. Klassen, at our administrative agency level yet. But I would be interested in being brought up to date.

MR. STEIN: Are there any other comments?

Mr. Purdy.

MR. PURDY: I think several questions have been asked relating to Michigan. Mr. Poole mentioned a letter. It is interesting. This is another one of those revolving door situations, Blucher. The Governor received two letters roughly four days apart. The second letter did not refer in any way to the first letter. It was on the same subject, but the contents were different, much different.

The second letter indicated to the Governor that the dredging as outlined in their report would take place unless the Governor objected to it. Our Governor has responded. Governor Millikin has reiterated his earlier position and that is that he is opposed to the dumping of polluted dredgings in the open lake. He has asked that a number of steps be followed.

One of the steps that he has requested is that we be furnished the information upon which the decision is based, that the dredgings are or are not polluted. I think this is a matter that I brought up at this last conference, the last conference in Milwaukee, and we still have not received that.

In answer to Mr. Klassen's question, yes, there is dumping taking place in the open waters of Lake Michigan, but not dumping of polluted dredgings. Clean dredgings are dumped into the lake and in fact we have a very definite interest in that and hope that the clean sand dredgings can be used to nourish those sand starved beaches that are suffering erosion problems. There is a need to maintain some of this sand along the shoreline.

MR. STEIN: Any other comment or question?

MR. MAYO: It is my understanding, gentlemen, that each of the Great Lakes Basin States in which the

Corps is to proceed with the dredging of polluted materials in calendar 1970 have been advised by the Division office of the Corps that they are going to proceed with that dredging and open lake disposal in calendar year 1970 unless adequate onshore disposal sites are provided and that the Corps would forego the dredging and open lake disposal of polluted materials if the Governors of the affected States would request the Corps to forego that dredging in the public interest.

So as I understand the situation, in the absence of a specific request from the concerned Governors for the Corps to defer the dredging of polluted sediments in open lake disposal, the Corps will proceed as it has in the past years.

MR. PURDY: Again as I stated, Michigan's Governor, Governor Millikin, has said that he is opposed to the dumping of polluted dredgings in the open lakes, so I would say that this means that he is asking them to forego this.

However, he is concerned that neither his office nor the State agencies have been involved in the determination of whether the dredgings are or are not polluted; secondly, whether there is a need for dredging in the year 1970, what would be the economic impact also if that harbor were not dredged in 1970.

He has not been brought into any of those decision-making processes and he has requested that he be given the opportunity to enter in on those decisions.

MR. MAYO: Certainly, as we indicated at the conference in Milwaukee, the information that FWQA participated in gathering at the time of the dredging study, in which we cooperated with the Corps, and some data since that time, is available. We are available to sit down with you and go over that data and work with you in reaching a mutual agreement on the classification of what is polluted. We had made some suggested classifications to the Corps in the process of the dredging study. We are available to participate in the opportunity to sit down with the States now and to reach that conclusion with you and deal cooperatively with the Corps and make available all of the data that we have.

MR. PURDY: There is more involved than just the matter of the polluted dredgings, but we requested this at an earlier date and were informed that the report was in to Washington being cleared and was not available to us at that time. We haven't received it yet.

MR. MAYO: Is this the Corps of Engineers dredging report?

MR. PURDY: The report on the quality or the report that your office made on the quality of the mud samples sampled in the various harbors.

MR. MAYO: I am just not aware of your request, Mr. Purdy, but I will tell you right now that the data we have is available.

MR. PURDY: Happy to receive it.

MR. STEIN: Any other comment or question?

MR. POOLE: Well, I don't have an answer to my question yet.

My question is, is it the sense of the conferees, including the Federal conferees, that we stand by our earlier position, namely that polluted dredgings should not be disposed of in the lake? I think it is Michigan's position and as of right now this is Indiana's position.

MR. STEIN: I see nothing that should change that in the record. Do you? I think this is clear.

MR. POOLE: O. K.

MR. STEIN: If we are not going to clean out the lake like a big bathtub, we sure don't want to make it a dump.

Are there any other comments or questions?

MR. KLASSEN: Not on this, but just briefly another subject when you get there.

MR. STEIN: Yes. Well, why don't we take that up, Mr. Klassen.

MR. KLASSEN: As a point of information, could you advise us the present status of Federal legislation in regard to wastes from watercraft? In Illinois, like the other States, we have adopted standards for the control of wastes from all watercraft, and I am under the impression that there is Federal legislation that I believe has been now enacted that could preempt this. That is one point, whether it does. And secondly, what is the status of Federal standards for wastes from watercraft and will these override or preempt the States' jurisdiction and standards? This is purely for information.

MR. STEIN: Yes, I think the legislation is passed; it was just signed by the President within the past few months. The 3d of April I understand is the date.

As a lot of very important legislation--and I consider this important legislation--once the legislation is passed, particularly in the field of Federal-State-foreign relations and in the basin dealing with interstate and foreign commerce, there are many, many questions such as you raised, Mr. Klassen. I think that the Federal establishment right now is getting into the business of gearing up and trying to develop a methodology where the standards will be developed and I think we are going to have to work out these very, very delicate problems of Federal-State and foreign jurisdiction in dealing with these vessels one at a time.

Now, I do not think that this legislation has been on the books long enough for the Federal Government to even get out its official inquiries to the States; but that, as I understand it, is being done. I cannot answer your specific question because of the newness of the legislation, except to say that the Federal Government is gearing up to administer this program.

MR. KLASSEN: Just one other question. I believe the bill states that after the effective date no State regulations can be enforced. Do you have an interpretation on this?

MR. STEIN: No, I don't.

MR. KLASSEN: In other words, this will tie our hands at the present time.

MR. STEIN: I am not sure if the question is what is the effective date, and there is a grace period for the Federal standards to go into effect.

I just make this as an offhand guess because again I don't want to give a curbstone opinion on this. I haven't examined this closely. But my guess is that the State regulations are in force until the Federal regulations actually come into being and can be enforced. In other words, just the enactment of the legislation does not stop the States.

MR. KLASSEN: There is one other point.

MR. STEIN: I would like a rain check on that.

though.

MR. KLASSEN: One other point. If we are in session this afternoon, will there be opportunity to put into the record public statements from organizations through the conferees?

MR. STEIN: Yes. That is what we are going to do largely this afternoon.

With that, we have several groups and persons who have indicated they want to speak. We will be available this afternoon. We will hear all the statements.

At this time we stand recessed for lunch until 1:35.

(NOON RECESS)

AFTERNOON SESSION

THURSDAY, MAY 7, 1970

(1:30 o'clock)

MR. STEIN: Let's reconvene.

Call on Mr. Mayo at this point for a report on Federal installations.

Mr. Mayo.

FRANCIS T. MAYO
REGIONAL DIRECTOR, GREAT LAKES REGION
FEDERAL WATER QUALITY ADMINISTRATION
CHICAGO, ILLINOIS

MR. MAYO: Mr. Chairman and fellow conferees, we have placed before each of you a brief report on the interim dates for completion of planning and the construction of waste treatment or disposal facilities at Federal installations. I am not aware that there is anything in here that is at all controversial if you want to take a moment to go through it.

MR. POOLE: I have only one question. That is, at the top of page 3 where the buoy tender Woodbine is going to put in a treatment system, my question is, how is it going to meet the new policy statement on temperature? (Laughter.)

MR. MAYO: Did you expect an answer today, Mr. Poole?

MR. POOLE: I would like to have one.

MR. STEIN: I can tell you, I can give you the answer. I think under the new policy statement that is the Woodbine's problem.

MR. KLASSEN: I could add to that, Mr. Chairman. From personal knowledge, the Woodbine is berthed in a slip at Grand Haven, Michigan, (laughter) where the outlet from the local powerplant cooling water goes into that slip, and I don't believe you are going to find the ambient temperature in there is going to be affected by the Woodbine because cooling water already goes in there.

MR. STEIN: See what you do, when you get guys like Klassen around our problems are solved. He is great. (Laughter.)

MR. POOLE: I have made an erroneous assumption. I assumed that if it was going to put a treatment device on the boat that it might be discharging any place in the lake that it happened to be. I apparently was wrong.

MR. KLASSEN: Is this a macerator chlorinator that they are going to put in?

MR. MAYO: Let me ask Mr. Gamet, if he is here, if he knows.

Mr. Merrill Gamet.

MR. GAMET: My understanding is that this will be a package type of treatment plant to provide secondary treatment.

MR. KLASSEN: Phosphate removal?

MR. GAMET: Shipalt, S-h-i-p-a-l-t, is the trade name given to it. I have not seen it. I think this is being tested on the East Coast.

MR. KLASSEN: I am curious to know whether it meets the new Illinois requirements, but as long as the Woodbine doesn't come into Illinois waters I guess we don't have anything to say about it.

MR. STEIN: Are you all set?

MR. POOLE: Go on with the show, Mr. Chairman.

MR. MAYO: Are there any other questions, gentlemen?

(The report referred to is as follows:)

May 1970

REPORT OF INTERIM DATES FOR COMPLETION OF PLANNING AND CONSTRUCTION OF WASTE TREATMENT OR DISPOSAL FACILITIES AT FEDERAL INSTALLATIONS

LAKE MICHIGAN BASIN

In compliance with the Summary of the reconvened session of Lake Michigan Enforcement Conference of March 31, April 1, 1970, the following is a report of information received from Federal and State agencies in the Lake Michigan basin pertaining to interim dates for completion of planning and construction of waste treatment or disposal facilities.

U.S. NAVY - Great Lakes Naval Training Center

A. Sewage Pumping Stations and Force Mains needed to deliver all sewage to North Shore Sanitary District at the site of their North Chicago Sanitary Treatment Plant.

1. Engage consulting engineer - June 1, 1970.
2. Submittal of 60% complete engineering plans and specifications - November 1, 1970.
3. Submittal of final plans and specifications - February 15, 1971.
4. Advertise project for bid - February 15, 1971.
5. Award contract for construction - April 15, 1971.
6. Complete construction - May 1, 1972.

B. Interim Settling Basin for Water Plant Filter Backwash

1. Plans are complete.
2. Financing arranged - June 1, 1970.
3. Initiate construction - June 15, 1970.

   Construction is anticipated to be by in-house forces.
4. Complete construction - August 1, 1970.

U.S. ARMY - Fort Sheridan

A. Facilities required to discharge all wastes, including water treatment plant wastes to the North Shore Sanitary District system.

1. Engage consulting engineer - May 22, 1970.
2. Submittal of 60% complete engineering plans and specifications - August 1, 1970.
3. Submittal of final plans and specifications - September 1, 1970.
4. Advertise project for bid - January 1, 1971.
5. Award contract for construction - February 1, 1971.
6. Initiate construction - April 1, 1971.
7. Complete construction and place in full operation - December 30, 1972.

BUREAU OF SPORT FISHERIES AND WILDLIFE - Jordan River National Fish Hatchery

A. Lagoon to treat fish hatchery effluent.

1. Engage consulting engineer - Bureau will perform all necessary engineering design.
2. Submit preliminary engineering report - preliminary report and drawings have been completed and approved by FWQA in July, 1969.
3. Engineering plans and specifications will be initiated as soon as FY 1971 funds are approved.
4. Detailed engineering specifications - 3rd quarter, FY 1971.
5. Not applicable.
6. Initiate construction - 4th quarter, FY 1971.
7. Complete construction and place in operation, 2nd quarter, FY 1972.

U.S. COAST GUARD -

A. Buoy Tender "WOODBINE": A secondary treatment plant suitable for shipboard installation is under test. When tests are successfully completed, a "Shipalt" will be installed. Agency is well aware of deadline dates required by E.O. 11507.

B. Plans are in progress to provide dockside connections with pump-out facilities for the Harbor Tugs "ARUNDEL" and "RARITAN".

C. Information regarding 36-foot and 44-foot motor lifeboats was erroneously reported to us. The 44-foot boats have replaced the 36-footers, and are used mostly on short runs in extremely heavy weather. They do not have macerator-chlorinators as reported, but will be provided with portable holding tanks for longer runs in less severe weather.

D. Development of automated equipment for Light Stations in Michigan and Wisconsin which are to be unmanned and automated has been in progress for more than five years. Plans and specifications for these installations will be prepared in-house, and construction will begin as soon as "Necessary funds flow down the budgetary duct from the Congress." Completion is expected prior to December 31, 1972.

E. Plans to unman the Racine, Wisconsin Lifeboat Station, as reported in February 1969, have been changed. The present plan is to retain this station in full operation. Engineering planning is now in progress to connect the station to the City of Racine municipal sewer system. Funds have been requested.

STATE OF ILLINOIS - Naval Reserve Training Armory, Randolph St., Chicago: No reply has been received in answer to our request for information pertaining to projected completion dates for installation of the proposed sewer connection to the municipal system.

OPERATING REPORTS:

Information has been received that the Department of Defense has initiated steps to liberalize existing regulations regarding the release of operating data for waste water treatment plants. This will be done in order to assure compliance with the intent of the Executive Order wherever possible, but recognizing that there may be some limitations in the interest of national defense. Each State has been requested by letter to submit to the Regional Office a list of facilities from which operating records are desired. These operating records will be submitted to the appropriate Regional Office, and forwarded to the requesting State.

MR. STEIN: May I call on these people:

Matthew May.

Come on up. Go right up, introduce yourself and give your statement.

MATTHEW MAY
CAMPAIGN AGAINST POLLUTION
CHICAGO, ILLINOIS

MR. MAY: Good afternoon.

My name is Matthew May. I am a member of the Campaign Against Pollution, and I am very concerned about the Zion nuclear station as well as all the other industrial areas around our lake.

I think it is very good that the Commission has refused to grant the Commonwealth Edison Company permission to discharge hot water and radioactive wastes into the lake. The reactors are not as safe as the governments and the electric company would have you believe. They are very dangerous devices. They are as yet largely experiments. In fact, the Atomic Energy Commission licenses all nuclear generating stations as experimental units only. They are not licensed for commercial operation.

The other thing I would wish to mention is that they are not as efficient as the reactor companies would have one believe. They are having all kinds of problems making them operate at the full capacity for which they were designed. They usually operate about 80 percent of their full capacity and some way below.

But the main concern is the discharge that may go into the lake. It is not a small discharge. It is a discharge of billions of gallons of water every day from each station. This water will be heated at a temperature of between 18 and 20 degrees over what it originally was and this water concentrated in the small area surrounding the station will have adverse effects upon the ecology of all the life in the lake.

The heating of the water reduces the water's ability to carry oxygen. The fish must live on the oxygen and if the oxygen content of the water goes down the fish are going to die.

There is a nuclear generating station in New York on the Hudson River. It is owned and operated by Consolidated Edison of New York. This station has heated the water up to such an extent that fish are dying by the millions and they have also found radioactive wastes in the water. If you go up in an airplane you can see the difference between the hot and the cold water. And I just want you to read the newspapers five years from now telling everybody what Commonwealth Edison is doing to clean up the thermal and radiation pollution in Lake Michigan.

I ask everyone, and especially our lawmakers, that they be very, very much concerned about this problem, not only Edison, although Edison would be the biggest, but every industrial concern, to think "people before profit," "people before money," "people before expediency."

This is all I have to say. And thank you very much.

MR. STEIN: Thank you, Mr. May.

Robert Fermanis?

(No response.)

Jennifer Schroeder?

(No response.)

Theresan Kaefer?

(No response.)

LAWRENCE BLOOM

LAKE MICHIGAN AND ADJOINING LAND STUDY COMMISSION, CHICAGO, ILLINOIS

MR. BLOOM: Mr. Chairman, my name is Lawrence Bloom. I am representing the Lake Michigan and Adjoining Land Study Commission of the State of Illinois.

The Lake Michigan and Adjoining Land Study Commission was constituted last year by the State of Illinois to evaluate the condition and the uses of Lake Michigan and its adjoining shore land within Illinois and to recommend a comprehensive policy for the States to follow in preserving the lake.

My comments will generally be referring to earlier testimony. First of all, speaking for the Commission who are heartened by the proposed new standards, last Friday on May 1 the Commission held a hearing at which it expressed a great concern for the heated water that would be flowing into Lake Michigan from the Zion nuclear powerplant. We understand, however, at least it would be my feeling, that such a gross change in policy would have some degree of lag time between today's statement and the actual implementation of these standards and we would hope that in that time all precautions be taken to make sure that excess heated wastes are not put into Lake Michigan.

We do have or I do have some questions regarding this statement of Mr. Klein's.

First of all, the way I read it, I hate to be reading it from a sinister point of view, but it seems to me there is a possibility of an infinite progression here. If water can be dumped into the lake at one degree above the ambient temperature, it seems to me it might be possible to have the water temperature be 60 degress, what you are dumping in be 61 degress, then soon enough the water will be 61 and you can go one degree higher than that and now you can start dumping at 62. Now, this may be a misunderstanding of what the standard--

MR. STEIN: That is a misunderstanding.

(Laughter.)

MR. BLOOM: I just wanted to be clear that it was a misunderstanding and I am glad that you have clarified that.

The second item I would like to raise is, I was wondering if you have any information of whether there would be a grandfather clause in this particular regulation such that existing uses, because they did not have the benefit of this new standard, would be allowed to continue to discharge.

MR. STEIN: I don't see a grandfather clause.

MR. BLOOM: You don't see a grandfather clause. O. K., that is very good.

Another item regarding the thermal effects. I would like to clarify a statement that Mr. Klassen made--and I fully understand, I think, the import of what he said--but I want to for the record add a comment that was raised at our last Commission hearing.

It is our understanding that the Sanitary Water Board of the State of Illinois has approved the permit only for the construction of the Zion nuclear powerplant and not for its operation of discharging water into the lake. However, it was raised at the Commission that it is very strange that there would be no implication raised from the permit to construct a multi-million dollar facility, that there would not be an implication that this facility would be used. Now, of course I understand that it is the position of the Sanitary Water Board that this should in no way imply that permission has been granted in advance for the Commonwealth Edison nuclear powerplant to discharge wastes at any temperature above the water temperature. However, it did seem very strange to the Commission that the potential use of this facility was not taken into consideration when the permit for construction of the facility was granted.

And finally with regard to the thermal effects part of the testimony this morning. We would appreciate-- the Lake Michigan Commission itself would appreciate-- some advance notice of the public hearing that you mentioned would be held so that we can prepare adequate testimony.

There are some remarks I have regarding other prior testimony and this time maybe I will be on Mr. Klassen's side. I recall them asking a question of the gentleman, I think from Wisconsin, of whether there were going to be interim chlorination for the Jones Island Plant. I don't think we had a satisfactory answer on that question of whether there would be interim chlorination until that permanent chlorination was put into effect, and I think we could ask for an answer to that question.

I have another comment. Mr. Klassen stated that by 1972 all facilities discharging into the lake will be in compliance with water quality standards, and I think that is something to be commended. However, I have two questions regarding this. First of all, I would like to know, even if all the existing plants are in compliance with the water quality standards, what will be going into the lake in terms of what kind of chemicals, what kind of substances and their amounts.

And my second question with regard to this point is, even if all of the facilities are in compliance with the water quality standards, to what extent will dilution be allowed in meeting the standards, and if it is allowed I would like it to be explained how this will affect the nondegradation policy set for Lake Michigan.

A further comment with regard to prior testimony. Mr. Frangos, I think, mentioned one polluter in I think it was Wisconsin--is that right?--which is a small polluter but was not in compliance. I have forgotten what kind of small factory it was. I think the Commission would want it on record that every litter bit hurts, as we have heard on television many times, and the concept of de minimis, a small amount won't hurt, can have very dangerous consequences when we add them up. So I think we should be equally concerned not only about the big fellows but about the little ones as well.

A general statement on policy. It would be hoped that when any permits are granted for the use of Lake Michigan as any kind of dumping ground, I think it should be the policy to require the potential user to prove the nondeleterious effects of his actions in advance rather than having a permit be granted unless objections are raised. It seems to me that when someone proposes to add a substance to Lake Michigan or to alter the lake or any other facility, it is up to them to show that the public interest will be benefited, not for them to wait until objections are raised, whether from the State agencies, Federal agencies or private citizens, to show that these uses would be detrimental.

These are the comments that I have prepared for you. I hope that they have been comprehensible. I would appreciate it if we could get some answers later in this session on the questions I have raised.

MR. STEIN: Well, we will ask for comments and anyone can make comments if he wishes.

Thank you for a very excellent comment.

MR. BLOOM: My pleasure.

MR. STEIN: Are there any comments?

MR. KLASSEN: Yes, I will give you comments right now.

MR. STEIN: Don't run off, Mr. Bloom.

MR. KLASSEN: No, you might want to comment.

I first want to reiterate what I told this gentleman and the Commission, and they persist in putting their own interpretation on this. If he will acquaint himself with House Bill 1794 of the 75th General Assembly, which apparently he hasn't done, he will find in there that the Illinois General Assembly mandated the Department of Public Works when they issue a permit for construction in the lake that this must be countersigned by the Chairman of the Sanitary Water Board that that construction would not cause pollution.

Now, Commonwealth Edison, I understand, made an application to the Department of Public Works for certain lake construction of a pipeline. They granted that permit for the construction. The Sanitary Water Board under the mandate from the Legislature said this construction will not involve pollution of Lake Michigan. And I reiterate and I just--all right--and I told the Commission this, and I told this gentleman there was absolutely no intimation in there, none whatever, that a permit would be granted later for any discharge, and we haven't granted that permit. I said this morning that under the new regulation here the application would be rejected.

Now, on his second question--I am a little lost on this one--in 1972 when all the standards will be met, and by that time Illinois will take everything out of Lake Michigan, what will be the effects of pollution and will we permit dilution? What else is going in I don't know because it is going to be taken out, and I don't know what we dilute; and if he would amplify that a little, I would be glad to answer. I just don't know what he is talking about.

MR. BLOOM: I can clarify both points.

First of all, Mr. Klassen, your first point was very well taken and I hoped I had made it clear that we understood that when the--

MR. KLASSEN: Apparently you didn't because you still persist in saying we issued a permit and we didn't.

MR. BLOOM: Well, let me try to clarify it again. It is my understanding, and correct me again if I am wrong, that the permit that was approved by the Sanitary Water Board of the State of Illinois approved only the construction of the facility in Lake Michigan and that you approved that because you said construction of the facility would not cause pollution.

MR. KLASSEN: That is what the Legislature mandated us to say and that is what we said.

MR. BLOOM: That I thought I made clear in my statement.

MR. KLASSEN: Well, you did, but you put another interpretation on it.

MR. BLOOM: Let me try to state that again--

MR. KLASSEN: All right.

MR. BLOOM: --to your satisfaction.

It was the concern of the Commission that when you are mandated to consider the pollutional effects of approving a permit,you consider not only what the actual construction will entail but the implication of allowing that construction to take place. And it was--although we recognize that you did not intend to approve the discharge at that time of water instillate at any degree of temperature--it is our position that maybe you should have considered that before you gave approval to build a multi-million dollar plant. In other words, the approval has been granted to construct pipes which are 16 feet in diameter, hundreds of feet out into the lake. And it seemed very strange to the Commission that you could say that although you have not given approval for discharge of water in the lake,you still have given approval to build pipes which could only be used for one purpose.

MR. KLASSEN: What is that purpose?

MR. BLOOM: For discharge of water--

MR. KLASSEN: That is not correct. Those are intake pipes.

MR. BLOOM: There were discharge pipes too, if I recall right.

MR. KLASSEN: Those are intake pipes and assuming they could be used for discharge pipes, they may be used for discharge pipes under this new regulation--

MR. BLOOM: That is correct.

MR. KLASSEN: --which will involve onshore cooling facilities.

MR. BLOOM: We appreciate--I understand that.

MR. KLASSEN: All right, then, let's get it straight and don't keep implying we issued a permit and we didn't know what we were doing. I resent that.

MR. BLOOM: Well, I didn't mean to--

MR. KLASSEN: Well, you have, so you have clarified it three times, but every time you talk you confuse us.

MR. STEIN: I don't quite understand.

MR. KLASSEN: I don't either.

MR. STEIN: Let me pursue this, because I am having trouble.

Supposing you have a discharge pipe.

MR. BLOOM: Yes.

MR. STEIN: And supposing you have a discharge pipe that puts out water as cool as they take it in.

MR. BLOOM: That is fine.

MR. STEIN: Then what is wrong with the discharge pipe?

MR. BLOOM: Well, except that looking at the plans for the construction of the facility, I don't think it would be apparent that there was any facility--any part of the machinery in there that would cool down the water to a temperature which would be exactly the same as the lake. So in other words, looking at the plans you could not infer that the water would be the same temperature; in fact you can infer that it would be much warmer.

MR. KLASSEN: You can't infer anything on it because you had no facts and neither did we; and you couldn't infer any more that hot water was going in there than cold water. Now, let's stick to the facts.

MR. BLOOM: Well, that is also another point that was raised at the Commission, that if you didn't have facts (laughter) that it was a very strange procedure to issue a permit. In other words, that gets back to the policy statement that I was thinking you should make. In other words, it should be up to the person requesting the proposed usage to prove beyond a doubt there would be no adverse effects and that would entail presenting all the facts. It is apparent that you didn't have the facts and we don't have the facts and, therefore, I guess you granted the permit, at least for the construction, and that is all I am saying--

MR. KLASSEN: We didn't grant the permit; the Department of Public Works. And let me say--

MR. BLOOM: You approved of it.

MR. KLASSEN: Let me say this, at a public hearing, if one is held, if it is necessary to be held, it won't be under this because we are going to reject this application so this is all academic--

MR..BLOOM: I see.

MR. KLASSEN: --we will ask you to give your opinion on these and we certainly will give it every consideration.

MR. BLOOM: I hope this isn't becoming too adverse because we appreciate the efforts that you are making in this regard on this point.

Do you still want a clarification of the points I was making?

MR. KLASSEN: No, I think you--

MR. STEIN: That is all right. By the way, I think you have a good point, but just bear with this. If you really want to do this, I think you have to recognize the problem at the agency.

We have an action now in Florida against Florida Power & Light. Florida Power & Light is building a six-mile trench canal to discharge its wastes. We filed a suit for a preliminary injunction to stop them from building the canal. We lost. The Federal judge told us anyone can build a ditch. We might have another question of whether they are going to put the water in.

Now, again I just ask you to look at this. The point is, sure, we can do what you think we should do, because we took that attitude on the Florida Power & Light and tried to get this injunction. But you have to recognize we are just dealing with one part of society in pollution control, and there are other parts. You are not going to stop public works; you are not going to stop construction; you are not going to stop all these things over which we don't have jurisdiction.

The thing that people like Mr. Klassen, the other people in the States, and we in the Federal Government have jurisdiction over is keeping the waters clean. If citizen groups get after us for other issues over which we don't have any power, and we can't do it, and we would be exceeding our authority--it seems to me this is a good game--but it really doesn't get to the matter of pollution control and really work at the problem. I just ask you to think about that.

MR. BLOOM: Well, I appreciate your comments, and I would say that had you been more active when the permit was granted, rather than trying to stop construction after the fact, you might have been more successful.

MR. KLASSEN: Speaking to Mr. Stein?

MR. BLOOM: Right. (Laughter.)

MR. STEIN: All right.

MR. BLOOM: I also--

MR. STEIN: Now, let me again say, you know, this is again great to say. But let me make this--

MR. BLOOM: I know it may be beyond the issue.

MR. STEIN: Let me just put this out, because I really do think that obviously you have given a lot of time and a lot of thought to this problem. But when you think in our type of government that a chief Federal enforcement man should be down on every permit and every construction operation in Illinois that the Illinois Department of Public Works is considering, you may have such a ubiquitous big brother kind of government you will be sorry you ever suggested it. I don't believe we should do that. If we can't have full faith in the honesty, the probity and the confidence of Mr. Klassen and the State, we couldn't begin to do our job. And we are just here from time to time. The day-to-day operation with the polluters has to rest with these States, and if you are suggesting that we have another kind of thing, you are going to have another kind of

Federal Government and I am not sure that you would like it.

MR. BLOOM: I would hope that we would give Mr. Klassen and other agencies like his the appropriate authority and the appropriate funds to carry out the job that I think they want to do. I have no quarrel to pick on that front.

Explaining my second question--currently, at least, I am aware that Abbott Laboratories, United States Steel, companies that Mr. Klassen mentioned are now discharging certain materials into Lake Michigan. He also stated that by 1972--~~at~~ those various dates--those plants would be in compliance with the water quality standards of the State of Illinois.

My question is just this: Does that statement mean that no metals, chemicals, things of that nature, will thereafter be allowed to flow from these industrial facilities into Lake Michigan? And if it doesn't mean that; if it means that there will still be some materials flowing into Lake Michigan--I want to know what kinds of materials and how much. That was my first question. Maybe we can stop there.

Is that clarified?

MR. KLASSEN: If that day arrives when they are meeting the water quality standards and if there is any discharge to the lake, Abbott Laboratories particularly plans to be part of this whole program to remove everything from the lake. If this day arrives we will tell you what is going in, if anything.

MR. BLOOM: Well, do the water quality standards allow anything to go in?

MR. KLASSEN: Certainly. Absolutely they do.

MR. BLOOM: Now, I would like to know--maybe you can't answer this on the basis of the information you have here--if the existing plants which are located on the lake were allowed to function in such a way that their discharges into the lake equaled but did not exceed the amounts allowed to be discharged into the lake under the water quality standards, how much, let's say, iron would be going into the lake? Could you tell us? You can't, I guess-- Would we know that at this point?

MR. KLASSEN: You are a lawyer and here we have water quality standards that the State adopts and the Federal Government approves, and I don't quite get your question if a discharger, whether he be an industry or a private individual or anybody else, is discharging into the lake and meeting those water quality standards. What is your particular question?

MR. BLOOM: Well, I guess I am having trouble.

MR. KLASSEN: I think you are. (Laughter.) I am, at least.

MR. STEIN: Go on.

MR. BLOOM: Does someone else maybe up here understand what I am saying?

MR. STEIN: I understand what you are saying, I think, maybe I do. But I think we are trying to do that. The point is we are not just talking when we can do it in terms of percentage reduction. We try to talk in pounds per day. Say you reduce Podunk's sewage 90 percent, you are not going to have much going in; you reduce Chicago's 90 percent, that 10 percent is going to be a pretty big load. So we try to, the phrase we like to use is quantify. We put it pounds per day.

MR. BLOOM: That is fine.

MR. STEIN: We have done that with phosphorus.

I don't think this applies to the heat, and so forth. As we get more and more data and more and more perfect, this is where the pollution control is going to get.

However, where we don't have that kind of expertise and that information, and these lakes are very, very complicated bodies, when you have to come up with a quantitative thing, we go into a qualitative reduction. When we go into a qualitative reduction we take our best judgment and the scientist's best judgment plus a safety factor and we hope the lake will be preserved and will be safe under those circumstances.

Unquestionably we have to move. Now, this isn't the reason,the reason that we are not doing any better is not because of the lack of will or the lack of authority. It is because of the lack of being able to make a qualitative judgment and we have to make a quantitative judgment and talk about rolling this back.

Sometimes you will find when we come to the quantitative judgment that we can allow more material to go in safely as well as less. But we think we have considered the safety factors and we have a program which will save Lake Michigan.

MR. BLOOM: I think what you have done is you have laid the groundwork so I can still ask the question. In other words, it is possible to quantify on the basis of the standards set and the capacity of the plants along the lake how much of each element or material could theoretically be discharged into the lake? I don't want to make a judgment on whether that is good or bad, but it would be possible to quantify?

MR. STEIN: I am not sure. I am afraid you didn't understand me. The point is if we could do that we would have done it. I said that the lake system is a very complicated system. Where we have not quantified it is because of the lack of this knowledge. This is something we are working toward. The whole research program is working toward that.

Now, the point is, I want to give you the notion--and let me repeat what I said again this far--this isn't because of a lack of will on our part.

MR. BLOOM: That is understood.

MR. STEIN: Or because of a lack of authority on our part.

MR. BLOOM: That is also understood.

MR. STEIN: The point is we just don't know if we could come up with a judgment, a meaningful judgment on quantifying. As soon as someone can present that to us, we are ready to put it forward. That is what we are working on.

MR. BLOOM: I am not asking that the standards be in the form of quantified amounts of pounds or whatever. I am just asking, taking your qualitative standards what will be the effect if we follow them? In other words, taking the standards you have already set in whatever manner you have, isn't it possible to quantify what--it is not possible? I thought I heard something from over here.

Isn't it possible to quantify what would be discharged?

MR. STEIN: Yes, but what is the purpose?

MR. KLASSEN: The answer is yes.

MR. STEIN: Yes. But what is the purpose?

MR. BLOOM: Now, the second question would be, if we had existing plants continue in operation and if they were to meet the water quality standards that you have already set, I just want to know what would be the combined amount of iron or any other element--potassium, whatever would be discharged--what would be the total amount per day or per year which would still be going into Lake Michigan after 1972.

MR. STEIN: We can have an infinite number of questions like that, but I can give you one answer.

Mr. Fetterolf is the representative of our Technical Committee. I suggest he can answer these questions into the night if you can ask them.

MR. BLOOM: I am not asking for an answer today. I would think that perhaps your proceedings would include in it a chart of this nature. I know you can't give it at this point.

MR. KLASSEN: So inasfar as the State of Illinois, I can answer this question, yes, we can determine that when this times comes and we will be glad to give it to you.

MR. BLOOM: I would very much appreciate it.

Can I ask my second question? I hate to take up so much time.

MR. STEIN: I thought you were on the second one.

MR. BLOOM: No, the second one was, when a standard is set is dilution taken into account? Now, the point is this. I am not a scientist, but let's say that you had 10--the standard said that of potassium--I don't know if it would make sense--you could have 10 grams per million of potassium going into the lake.

MR. STEIN: No, no, no.

MR. BLOOM: I was just going to say--

MR. STEIN: No, we can save a lot of time. When you say tens of millions we deal with water quality. What the standard said is the amount of material that can be in the receiving water for a particular use. That assumes dilution right there.

MR. BLOOM: In other words, the standards are set on what is received and not what is poured out?

MR. STEIN: We have to--yes, the answer to that is yes.

MR. BLOOM: Is it possible in the receiving water by adding additional water to dilute the concentration of the element being discharged such that although leaving the plant it could be a strong dilution, it could be joined with additional water such that when it is received--

MR. STEIN: Yes, it is possible, but I think we are not naive enough not to imagine it. But I am sure it is not possible for us to supply any answer that is going to stop your flow of questions.

MR. BLOOM: Not stop the what?

MR. STEIN: Your questions.

MR. BLOOM: Oh.

MR. STEIN: I wish I could find an answer that would--

MR. BLOOM: That was the last question.

MR. STEIN: All right, thank you.

Mr. Zepiel, Miss Zepiel?

MR. ZEPIEL: Yes.

WALTER ZEPIEL

CAMPAIGN AGAINST POLLUTION

CHICAGO, ILLINOIS

MR. ZEPIEL: I am Walter Zepiel from Chicago. I work and am associated with the Campaign Against Pollution. I have here a statement.

The Federal Water Pollution Control Administration's January of 1968 report states one of the major contributions to the early death of Lake Erie was the overgrowth of algae, stimulated excessively by the heat input into the lake.

We may say that Lake Michigan is far larger than Lake Erie was, but the same thing, for that same reason we have so many more plants for Lake Michigan which will put out warmer water back into the lake. And, therefore, I would urge you gentlemen to work towards stopping the building of this plant in Zion and all other plants that would take water from Lake Michigan and put it back in at a higher temperature. We must do this before it is too late.

I am sure that you know that Lake Michigan is the only free recreation area we have and what nature provided with God's help let no man destroy it.

So again I urge you to work towards stopping this nonsense of letting hot water go back into the lake. And what about radiation from it? Think about it, gentlemen. It is for the welfare of your future children, grandchildren, and mine too.

Thank you.

MR. STEIN: Thank you, Mr. Zepiel.

L. Olson?

Anne Alberts? Anne Alberts?

Helen Miller?

Helen Sala?

Mr. Arthur Pancoe?

ARTHUR PANCOE
SCIENTIFIC DIRECTOR, SOCIETY
AGAINST VIOLENCE TO THE ENVIRONMENT
GLENCOE, ILLINOIS

MR. PANCOE: Mr. Stein, Mr. Mayo, and other members of the committee.

My name is Arthur Pancoe. I represent an organization known as SAVE, which is comprised of approximately 1,000 North Shore families. We have a brief statement to issue on the proceedings today.

We of SAVE, although for the Commonwealth Edison nuclear plant, are against using the lake for cooling purposes, since there are alternatives to the cooling problem.

We believe that the group of eminent scientists and educators who recently agreed to advise Commonwealth Edison on environmental matters would not sign a public document that there might not be future damage, even substantial in nature, to the ecology of the lake from the Zion plant as it is now designed.

As a matter of fact, up until several days ago it was Commonwealth Edison's position that there was no danger to the public from radioactive tritium to be deposited in the lake from the plant. We now understand that as late as yesterday they are studying a system to store this radioactive material at some additional cost. This discussion is going on right now with Westinghouse. Why this sudden change in their previous stated position with regard to the absolute safety of tritium effluent?

Contrary to Commonwealth Edison's statements, there is available scientific studies indicating that present and contemplated nuclear plants could provide a growing biological health hazard from radioactive emission.

The Lawrence Radiation Report states that there is no threshold below which damage might not be done to human beings from manmade radioactive emissions.

There are many scientists who believe that the AEC should not be responsible for both promoting the use of nuclear energy and at the same time regulating the health standards under which these plants operate.

The State of Minnesota is presently questioning in the Federal courts the AEC standards with regard to the Monticello nuclear plant emissions. They are asking for a many, manyfold reduction in the allowable emissions.

There has been little research indicating that nature might not reconcentrate tritium or other radioactive emissions from such plants in ways not now envisioned,much as was the case with DDT.

There are several open end questions that have really not come up for much discussion concerning much more dangerous radioactive emissions, such as strontium 90 and iodine 131. The data on this is available but not to the public.

With regards to thermal pollution, the Zion plant will deposit in the lake enough BTU's to heat approximately one million homes in this latitude.

I noticed a big sigh of relief this morning about the one degree temperature change. I was very curious as to the reception of this. It does not mean exactly what you think it means. Under this one degree regulation it would be possible and not even difficult for Commonwealth Edison, or any other nuclear plant, to deposit any amount of heat in the lake. Here is what it really means. Commonwealth Edison and other plants take the water from the deep water, from the cold water avenue. You all know that down deep and far out the water is colder than inshore. They now plan to heat this cold water up approximately 19 degrees when the plant is operating at full efficiency to a temperature that is only 5 degrees warmer than the inshore warm water. So that under this new regulation they still would have a Delta T, as it is called, of perhaps 11 to 12 degrees to work with. Thus they could deposit every drop of heat that we are now talking about under the same regulation by merely getting some more pumps and instead of pumping a millionand a half gallons of water through the plant per minute they would perhaps have to pump through the plant two to two and a quarter millions of gallons. The methods for putting the heat in the lake would definitely be available under the new present regulation that everyone heaved a sigh of relief about.

On this subject, Dr. C. H. Mortimer, Director of the Center for Great Lakes Study at the University of Wisconsin, stated just last Saturday at a Zion Symposium that he was not opposed to the plant. On the subject of thermal pollution that he thinks--here is a man who spends the greater part of his life studving this problem--that he thinks the damage to the lake would be about between the two extremes of opinion, even though he made no specific judgment on whether the plant should be or should not be constructed.

A man here previously quoted the Federal Water Pollution Control Administration's statement on Lake Erie, so I will not go into that again.

Any problems with regard to this plant might not manifest itself for many years, at which time damage to the lake could be of major proportions. Thus we feel that unless Commonwealth Edison can answer all legitimate scientific objections beyond any question of a doubt, they should make the Zion plant a closed system, not depending on the lake, even though this might lower plant efficiency by as much as five percent.

I want to close by reiterating that it is the position of our group that we are for the Zion plant as in the long run it presents a good interim form of cleaner energy than coal, although it is certainly not the ultimate.

My name is Arthur Pancoe and I am Scientific Director of SAVE.

Thank you, gentlemen.

(Which said statement is as follows:)

SOCIETY
AGAINST VIOLENCE
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ENVIRONMENT

BOX 84
GLENCOE, ILLINOIS 60022

Steering Committee
MR. ARTHUR WILK, Chairman
ID 3-1423
MR. ARTHUR PANCOE, Treasurer
835-3338
MRS. FRANKLIN P. COLE
831-3042
RICHARD M. DeVIERMAN
945-6552
MR. ROBERT FERMANIS
433-3638
MR. ROBERT HILLMAN
831-2193
MR. DALE SCHLAFER
433-0321
MR. MICHAEL SWEENEY
945-4937
MR. HOWARD SWEIG
831-4477
MR. BERNARD VERIN
432-6680

May 7, 1970

We of SAVE although for Commonwealth Edison Zion Nuclear Plant are against using the Lake for cooling purposes, since there are alternative methods available, (cooling tower, large enclosed lagoon in Lake.)

We believe that the group of eminent scientists and educators, who recently agreed to advise Commonwealth Edison on environmental matters would not sign a public document stating that there might not be future damage, even substantial in nature, to the ecology of the Lake from the Zion Plant, as it is now designed.

As a matter of fact, up until several days ago, it was Commonwealth's position there was no danger to the public from radioactive tritium to be deposited in the Lake from the plant. We now understand that as late as yesterday, they are studying a system to store this radioactive material at some additional cost. Why this sudden change in their previous stated position with regard to the absolute safety of the tritium effluent?

Contrary to Commonwealth Edison's statements, there is available scientific studies indicating that present and contemplated nuclear plants could provide a growing biological health hazard from their radioactive emissions.

The Lawrence Radiation Report indicates that there is no threshold below which damage might not be done to human beings from man-made radioactive emissions.

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The Federal Water Pollution Control Administration's January, 1968 Report states one of the major contributions to the early death of Lake Erie was the overgrowth of algae stimulated excessively by the heat input into the Lake.

Any problems with regard to this plant might not manifest itself for many years, at which time damage to the Lake could be of major proportions. Thus, we feel that unless Commonwealth Edison can answer all legitimate, scientific objections, beyond any question of doubt, they should make the Zion Plant a closed system, not depending on the Lake, even though this might lower by 5% the efficiency of the Plant.

Arthur Pancoe
ARTHUR PANCOE
Scientific Director of SAVE
Area Code 312 427-8520

AP:dsg

MR. STEIN: Thank you.

Erling H. Lunde?

ERLING H. LUNDE

DIRECTOR, THE CITIZENS OF GREATER CHICAGO

CHICAGO, ILLINOIS

MR. LUNDE: Gentlemen, thank you for this opportunity to be heard.

I am Erling H. Lunde, Director of the Citizens of Greater Chicago, representing over 200 civic organizations in this area.

Clean air and water are parts of our long-time program. We urge you to set proper standards and work for proper laws to preserve our environment intact and unpolluted for future generations.

I didn't want to go into technical stuff, but I want to get behind all these laws and all these standards that you are setting. I want to be with the group that are working for law and order in this country.

(Which said paper is as follows:)

CGC

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5/7/70

Federal Water Quality
Administration
U.S. Dept of the Interior
4 states Conference

Gentlemen:

Thank you for this opportunity to be heard.

I am Erling H. Lunde Director of the Citizens of Greater Chicago representing over 200 civic organizations in this area.

Clean air & water are parts of our long time program.

We urge you to set proper standards & work for proper laws to preserve our environment intact and unpolluted for future generations.

Respectfully yours
Citizens of Greater Chgo
Erling H. Lunde

MR. STEIN: Thank you.

Mrs. Botts?

MRS. LEE BOTTS

DIRECTOR, ENVIRONMENTAL EDUCATION

OPEN LANDS PROJECT, CHICAGO, ILLINOIS

MRS. BOTTS: Mr. Stein, conferees.

This morning earlier I objected to the fact that a citizens' group was permitted to participate in this proceeding when I had been informed that such participation would not be possible today. During the recess which followed that discussion, Mr. Stein asked me for a copy of the letter which I said I had received from his office. I returned to my office; I have the letter here; I would like to submit it, together with the letter that I wrote to Mr. Klassen inquiring about the possibility of public participation, the letter from Mr. Klassen to me referring the matter to Mr. Stein. And the pertinent part of the reply from Mr. Stein to me was as follows:

"The Executive Session will be limited to discussion among the conferees."

Further he says:

"The Executive Session will be held in public so that the development of conclusions and recommendations by the conferees can be fully observed by all interested parties."

The point that I made this morning was that if it had been possible for public representatives to participate today on advance notice there would have been other parties besides myself here prepared to make reasonable and responsible statements.

My organization, the Open Lands Project, serves as a clearing house for matters pertaining to Lake Michigan for organizations in the four States around the lake. Last Saturday we held a meeting which included representatives from industry, government, and conservation and citizen groups for the purpose of informing ourselves about the issues related to the nuclear powerplants. We informed all those who attended from Wisconsin, Indiana, Illinois and Michigan that they would not be allowed to make presentations in this session of the four-State enforcement conference.

Since this turns out not to be the case, I am asking that this session be reconvened in Chicago to offer those persons representing other citizen groups who did wish to participate an opportunity to do so.

I would further suggest that if this is an unwieldy way to handle the matter of permitting public participation, that the conference address itself to setting up a more rational meeting and rules which they themselves can observe in allowing for public participation in the future.

When the session is reconvened, my organization will be prepared at that time to submit the full transcript of last Saturday's meeting, including the discussion by a professor of law from Indiana University who had come to the conclusion that it would be necessary to restructure our regulatory agencies in order to accomplish the necessary task to protect Lake Michigan.

I thank you for offering me another opportunity to speak this afternoon and I will submit this correspondence for the record.

(Which said correspondence is as follows:)

bcc to those on attached list.

April 21, 1970

Clarence Klassen
Technical Secretary
Illinois State Sanitary Water Board
Springfield, Illinois

Dear Mr. Klassen:

As you know, the Open Lands Project is seeking means for the public to participate in decisions that set public policy on environmental issues.

Currently, we are particularly concerned that the public be allowed opportunity to participate in decisions on use of Lake Michigan water in production of electric power. In this connection we have been informed that the May 7 meeting of the Lake Michigan Four-State enforcement conference will be an executive session and that the subject of the meeting will be the setting of thermal standards for discharges into the lake.

We would like to obtain from your office any information relevant to this matter, such as the Illinois temperature and mixing zone standards, and information about the current status of these standards in enforcement, etc.

Also, could you please inform us how the public participation in this process will be assured and whether, for example, your agency will hold a public hearing on this matter in advance of the May 7 meeting.

We appreciate the cooperation you have always extended to us and look forward to hearing from you soon.

Very truly yours,

Mrs. Lee Botts, Director
Environmental Education

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ADDRESS LETTERS TO:
STATE SANITARY WATER BOARD
SPRINGFIELD, ILLINOIS
62706

April 24, 1970

Mrs. Lee Botts, Director
Environmental Education
Open Lands Project
53 W. Jackson Blvd.
Chicago, Illinois 60604

Dear Mrs. Botts:

This acknowledges your April 21 letter concerning the next meeting of the Lake Michigan Four-State Enforcement Conference in Chicago on May 7.

Relative to how public participation will be involved in this meeting, I am sending a copy of your letter to Mr. Murray Stein, Chairman of the Enforcement Conference, who can answer this question inasmuch as he will be in control of the entire session.

Quite frankly, I do not know the interpretation of "executive session". I am certain it will be a meeting open to the public but just how the public will participate is a matter over which Mr. Stein has jurisdiction and that is the reason for sending your letter to him for reply.

We did appreciate your contribution made at the Milwaukee session.

Sincerely,

C.W. Klassen,
Technical Secretary

CWK:jp

cc: Mr. Murray Stein, Chairman
Four-State Lake Michigan Enforcement Conference

205-A

UNITED STATES
DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
WASHINGTON, D.C. 20242

MAY 4 1970

Mrs. Lee Botts
Director, Environmental
Education
Open Lands Project
53 West Jackson Boulevard
Chicago, Illinois 60604

Dear Mrs. Botts:

Mr. Clarence W. Klassen has asked me to respond to your letter of April 21, 1970, concerning the upcoming Executive Session for the third session of the Lake Michigan enforcement conference.

The Executive Session will be limited to discussion among the conferees. They will consider several matters including temperature and the establishment of interim dates for construction of necessary treatment facilities. These points for the conferees' consideration were reported upon and discussed at the third conference session held on March 31 and April 1, 1970, in Milwaukee, where public participation was invited.

The Executive Session will be held in public so that the development of conclusions and recommendations by the conferees can be fully observed by all interested parties.

Your attendance at the Executive Session for the conference to be held on May 7, 1970, at 9:30 a.m., at the Sheraton Blackstone Hotel, Crystal Room, 636 South Michigan Avenue, Chicago, Illinois, will be most welcome.

Sincerely yours,

Murray Stein

Murray Stein
Conference Chairman

205-B

FROM: Mrs. Lee Botts
Open Lands Project
53 W. Jackson
Chicago, Illinois 60604

STATEMENT TO FOUR-STATE ENFORCEMENT CONFERENCE

MILWAUKEE, WISCONSIN, APRIL 1, 1970

I am Mrs. Lee Botts, representing the Open Lands Project, a private, nonprofit conservation organization headquartered in Chicago. My organization serves as a clearinghouse and information center on Lake Michigan for citizen groups in the four states of Wisconsin, Illinois, Indiana and Michigan.

On Monday I attended a hearing at Grand Rapids, Michigan, called by the Subcommittee on Energy and Natural Resource of the Senate Commerce Committee, chaired by Senator Philip Hart. What I heard here yesterday in this conference has underscored what was brought out in the Grand Rapids hearing and the plea made recently by the president of my organization to the Illinois legislative commission on the use of Lake Michigan and its adjoining shoreline.

The participants in the Grand Rapid hearing included citizens who have already suffered property loss owing to construction of a nuclear power plant on Lake Michigan and other citizens who stated why they fear that operation of such facilities may threaten their own existence and that of the lake rather than only their land. They were

They were not reassured in Grand Rapids and they have not been reassured here that industry and government shares their concern.

There was testimony by biologists, by a staff member of the state water egulatory agency and by representatives of the utility industry. The inescapable conclusion that resulted was that no one, neither the citizens, the researchers nor the power companies now has sufficient knowledge to offer reassurance to anyone that the seven nuclear plants and 10 reactors scheduled to be operating on the lake within a few years will be worth the environmental consequences.

Yet what has been said here confirms that the nuclear power plants under construction on the shore of Lake Michigan are apparently going to be allowed to go into operation before the full consequences have been evaluated and without the public's having had sufficient opportunity to participate in the decision of whether the electricity to be generated is worth the possible cost in clean air and clean water and the certain loss of recreational and esthetic resource.

To give you one example, yesterday morning John Carr of the Bureau of Commercial Fisheries called for location and documentation of the discrete spawning areas of the fish now in the lake before the nuclear plants go into operation. He directly contradicted a statement made by Mr. Fetterolf in Grand Rapids when he challenged what he called the misconception that discontinuance of discharge of heated effluents would result in re-establishment of previous species. Representing the Michigan Department of Natural Resources, Mr. Fetterolf said on Monday that he saw no reason not to go ahead and permit the discharge of water heated 20 degrees in the volumes of millions of gallons per second. He was certain, he said, the power companies would cooperate and the discharge could simply be stopped if there was any reason to do so.

I do not believe, nor do I think the power companies believe, that once they begin operating the plants they are now completing at costs ranging up to hundreds of millions of dollars per site it will be a simple matter to cause them to stop use of the lake whose convenience was the reason for choice of locations on its shores in the first place.

To use another example of unresolved questions that get different answers from different sources was that raised by the spokesman for the Wisconsin Electric Power Company yesterday. He stated that at his company's Two Rivers plant the heated effluent would be discharged on the surface of the lake near the shore when it could receive maximum exposure to the atmosphere with the most rapid dispersal of the heat from the water.

Yet at Illinois on the same side of the lake at another plant designed by the same engineering company at Zion, Illinois, the discharge will be hundreds of of feet out in the lake well below the surface. This approach is defended on the grounds that it will prevent formation of a heated plume on the surface that would interfere with oxygenation of water below it. I cannot rationalize the contradictions in these theories, but until someone can in a way that offers protection to the lake, I do not believe either kind of discharge should be permitted.

In yet another case, the Atomic Energy Commission has required the Indiana and Michigan Power Company to re-design its intake and discharge system at Bridgman, Michigan, possibly for still other reasons. In this location on the east side of the lake the winter ice cover that builds up protects the shore from erosion and the wave action generated by winter storms. The Wisconsin company spokesman yesterday cited melting of the ice cover by the heated water as an advantage, yet at Bridgman the same effect is greatly feared.

What I am trying to say is that the question of nuclear power plants and protection of Lake Michigan is far more complex then anyone realized it could be just a few years ago. The power company may feel that what it said four years ago is applicable today, but the public does not agree, and is growing ever more afraid. What the utility industry and government must recognize is that the public is so afraid and so uncertain whether environmental protection is shared as a goalto which economic gain must be subservient if necessary that it now questions the formerly sacred precept that our only choice is between doing without electricity or doing without nuclear power plants.

I am sure you have all heard the statement that nuclear power is the most closely controlled techonological development that has ever taken place. In a sense this is so, and yet as far as the public is concerned, the multiplicity of government agencies that share in authority over use of nuclear power to generate electricity makes it appear to be a most uncontrolled force against which there is no recourse. Except for the Atomic Energy Commission, the only agency with enforcement authority over the whole lake from a single office is the Federal Water Pollution Control Administration.

I do not believe that the AEC's competence in building reactors proves their ability, nor their willingness, to protect the environment in operating them and certainly not on the basis of present knowledge about thermal effects. This four-state conference is meeting ina cooperative effort to correctmistakes made in an ignorant and uncaring past. Mr. Stein questioned yesterday whether brownie points should be given to cities and institutions who claim credit for meeting outdated standards when they are months and years behind schedule in meeting current stqndards for water quality control.

What I said in Ann Arbor was that so far in this area the FWPCA has been a paper tiger and that I feared this conferende would be yet another occasion for documenting the continued deterioration of the lake without aggressive action to prevent or avoid what may result from the advent of nuclear power around its shores.

I am asking you now what the FWPCA and the cooperating stage agencies are going to do to avoid having to meet together five years hence to decide how to deal with problems they know right now may develop from this source.

As the president of my board of directors, Mr. Jeffrey Short, said to the Illinois legislative study commission on Lake Michigan, we must go slow in use of nuclear power until we know how to prevent damage to the lake, to the air above it and to its shores. The City of Milwaukee may not have any excuse not to disinfect its sewage but neither does the FWPCA have any excuse not to avoid thermal pollution.

The real choice is not whether to do without electricity, but whether to pay now to prevent damage in its generation or to pay later to correct it.

****

MR. STEIN: Thank you, Mrs. Botts.

That is the last name I have. Does anyone else care to make a statement who hasn't registered yet?

MRS. JOHNSTON: Mr. Stein, can you hear a brief one?

MR. STEIN: Yes, come right up. I knew something was missing, Mrs. Johnston. (Laughter.)

EILEEN L. JOHNSTON
LEAGUE OF WOMEN VOTERS
WILMETTE, ILLINOIS

MRS. JOHNSTON: My name is Eileen Johnston of Wilmette, Illinois.

I want to say I have every confidence in Mr. Stein's decision this morning.

And I just want to announce that the Committee on Lake Michigan Pollution is sponsoring an educational cruise this Saturday of the Chicago waterways and I want to invite the conferees to stay over and join us. We will even give you a bargain rate. The public is $6. We will give it to you for $5.95. (Laughter.)

Mrs. E. L. Johnston

But I just thought that there might be somebody here interested. We do feel that more people need to know the situation in the southern end of the lake and this is a wonderful opportunity to do so.

Thank you, Mr. Stein.

MR. STEIN: Thank you very much.

Mrs. Johnston is our severest critic and watches us very closely.

(The following was submitted by Mrs. Johnston:)

March 30,1970

Statement to Conference; Pollution of Lake Michigan and its Tributary Basin, Illinois, Indiana, Michigan, and Wisconsin

My name is Eileen L. Johnston and my home is Wilmette, Illinois. My short paper is titled "Are we going forward or backward in our fight for survival? Some days I really wonder. Does man really want to survive?

The recent 3/4 inch thick report on "Plankton Diatom Assemblages in Lake Michigan" by Stoemer and Yang of the Great Lakes Research Division of the University of Michigan should serve as a STOP sign on adding any more phosphorus to the lake. The report shows clearly that the lake is degraded even more than we had realized. Phosphates nurture rapid growth of algae. We don't have to use so much fertilizer containing phosphates. We don't have to use detergents with high phosphorus content. I urge Secretary Hickel to set standards of biodegradability, toxicity, water eutrophication ability and health effects on all detergent ingredients as suggested by Senator Gaylord Nelson's bill. I also believe we should stop manufacturing of products with that ingredient by January 1, 1971. This will take Research and Development, and I believe it should be done at the federal level, for industry has lagged on this one also.

I am greatly concerned about the Metropolitan Sanitary District of Greater Chicago. In October, 1969 they took a big step forward when they adopted a Sewage and Waste Control Ordinance with Appendix A which states that wastes of any kind may not be discharged into the waters of Lake Michigan. Recently the School Board of a North Shore suburb asked for a variance of this ordinance. If this is granted, it will lead to more phosphorus going to the lake by urban runoff, and it will establish a dangerous precedent for other communities to follow. It also points out the sad fact that the MSD has not established a flood control policy. Vinton Bacon and the Staff have urged adoption of such a policy for the past two years. Action is urgently needed in this huge sanitary district, especially in an area of 57 square miles of combined sewers on the north side. In times of heavy rains combined sewer overflows must be sent to the lake to pollute it more. This is a critical matter. Can so one urge the Board of Trustees to adopt a flood control policy and start moving on it! This relates directly to the degradation of Lake Michigan.

My third area of concern today is the move by the Administration to slash Great Lakes and Oceanic fisheries research. This is frightening, unreasonable, and very shortsighted. We all know we have a population explosion, that million will be starving in a matter of years. The lakes and oceans can be a source of food supply if we stop killin them off. How can the President and Secretary Hickel possibly justify cutting back on Research at four laboratories.? Congressman Dingell says "The Great Lakes Fishery Laboratory at Ann Arbor, Michigan is the only facility in the United States that has the capability to make immediate contribytion to save the Great Lakes Environment and its fisheries." My concern is also for the vast experience the Research men at this wonderful lavoratory have gained in their work on the lakes. What a waste to shut back such an agency when it is concerned with our actual survival.

I ask you, gentlement, is this a step forward or backward?
Thank you for letting me speak to you .

Eileen L. Johnston
505 Maple Ave.
Wilmette, Ill.

Summary

MR. STEIN: Are there any other comments or questions that anyone wants to put in?

If not, we will go around the conferees and see if we have any matters to discuss. I think the major issues and points that we came here on have been in large measure met and I would like to thank the conferees for that.

SUMMARY

One, I think we have--and I challenge any other region anywhere or anybody in the country to produce this--a list of all the dischargers from the four States with all these interim dates listed up to date. I think with that, that is going to be a tremendous step forward in helping the State and Federal regulatory agencies and the dischargers themselves and the people to get on with this program. We have one of the most complicated programs in the cleanup of Lake Michigan. I think we are right in midstream in cleaning up that program, and I will say from the reports we got the prognosis looks pretty good. As a matter of fact, if you compare the rate of progress that we have reported here with the progress in various other watersheds in the country, I think it is excellent. Of course what we do, as Mr. Purdy is fond of saying, we have good intentions and we have the papers filed, now we have to see that they produce.

The first step in seeing that some are producers is getting this material in. This represents a lot of work, I know, on the part of the States, of the municipalities, and the industries involved. I know in cases involving large sums of money--and even the smaller polluters are spending large sums for them--putting these definitive dates down has taken a lot of soul searching and a lot of negotiation and a tremendous amount of work. So we do have the blueprint for the cleanup of Lake Michigan and we have this for anyone to see.

Again I do think that we recognize we do have a significant problem to work out in the State-Federal program on requirements of thermal pollution control in the lake. You have heard the Federal position this morning. We are going to go back with the comments of the States, the reservations the States have, and I hope we will begin working on that.

I do think, unless I am mistaken, that we are on our way for the cleanup of those two big Federal installations that Mr. Poole mentioned--Fort Sheridan and the Naval Training Station. So hopefully we are on our way with the Federal as well as the State, industrial and local problem.

Now, I also think that we have to follow through, perhaps, on a variety of programs that I would like to give to you people if you have any suggestions. Let me take the easy ones that came up first.

One, we will strive when we get back to set up a meeting, the next meeting, at Grand Rapids, Michigan.

In addition to that--if there is an objection, I would like to hear it--we will set up as soon as possible another meeting in the Chicago area to hear the people here, because evidently there is a lot of interest coming up in thermal pollution and new plants. One of the advantages of an executive session like this is hearing that the people want to be heard again, and we would be delighted to do that.

I would like to say if you want to look back on the record of these conferences, we have had about as much public participation as practically any public body and we welcome that, because that is where we get a good deal of our information and insight from. We want you to participate and we want you to work very closely with us. So we will try to set up that meeting,and make a full announcement of that as soon as possible.

The reason we are not setting the date here or trying to is in dealing with four States and the Federal Government, we all have various commitments, and we have found that when we get back to our offices and get this calendar of events and commitments, we are able to do this in a much better way.

Do any of the other conferees have any other issues that you might want to raise?

Summary

MR. MAYO: Mr. Chairman, there were a few items that I think were left over from the meeting in Milwaukee that the conferees need to give at least some brief attention to. Perhaps I can identify them and see the extent to which they generate your concern.

At the Milwaukee conference, one of the items discussed was the need for the conferees and their respective State and Federal interests to give some attention to the occurrence of the polychlorinated biphenyls. Now, the polychlorinated biphenyls, this was discussed briefly in the report of the Pesticide Committee. I sense that it was the desire of the conferees to direct the Pesticide Committee to proceed to pay attention, and spend some time with the putting together of information on the occurrence and background information on the toxicity of the PCB compounds. If that is the sense of the conferees then the committee is entitled to some fairly specific direction.

MR. STEIN: Mr. Fetterolf, are you representing the committee?

MR. FETTEROLF: I am not here in a capacity to represent the technical committee on pesticides designated by this conference. But at the Milwaukee meeting when I presented the technical committee report, I stated that the various States participating in the pesticide monitoring were taking steps to incorporate PCB analysis along with their pesticide analysis.

I also stated that the committee was taking the utmost precautions; that there were other environmental contaminants which were being discharged that might not be measured in our planned pesticide monitoring program. To guard against this, we would have complete analyses run by a consulting firm, which would advise us what additional contaminants we should be looking for within our monitoring program.

There was one more point--that laboratories participating in this study would share samples and compare analyses to be sure that the methods being used by the various laboratories were delivering comparable results.

So I do feel that the pesticide monitoring program is taking into account PCB's. How soon the various States will be able to start assuming their responsibilities in the pesticide monitoring program is still unknown. Wisconsin is going strong. I believe Indiana has assumed their responsibilities. Illinois and Michigan are under way but are not operative yet in the pesticide monitoring program.

MR. MAYO: Would it be reasonable, then, to ask the committee to report back, within six months, on the information it has been able to gather on the occurrence of the polychlorinated biphenyls in the lake and its tributaries, and the activity that has been developed in the exchange of analytical data and techniques?

MR. FETTEROLF: Yes. I was pausing because I was wondering if we could have this report ready for the Grand Rapids meeting, but I doubt if enough information would have been gathered by that time to be meaningful.

MR. STEIN: Can we have a progress report, at least, at the Grand Rapids meeting to tell us how you are doing?

MR. FETTEROLF: By all means.

MR. STEIN: All right.

MR. POOLE: One other point on this. I am not sure what the other States did, but when we filed for the research grant we put it down as a 3-year project. It was only acted on for one year, and as I remember some of the telephone conversations that we had back and forth, the other States had made it a one-shot affair. But that grant expires the first of October. And the thing I had planned to do was put paper work through for the second year of the project.

I wonder what the rest of you have got in mind?

MR. FETTEROLF: The Milwaukee conference Conclusion 8 of our report was that the mechanism of monitoring and analyses for pesticides, PCB's and other contaminants which are normally not monitored for, was an excellent one for the States to protect themselves from these unknown components that plague us continually. And we stated that we felt it must be a continuing program and that the States and the Federal Government should continue to support this program. I have discussed this with the Regional Office in Chicago and they have urged the States or are urging the States to submit this for a continuation program.

MR. STEIN: Are you set on that?

MR. MAYO: Another point that was brought up in Milwaukee had to do with the need to identify the discrete fish spawning and feeding areas in the lake. I think Mr. John Carr from the PCF made it abundantly clear that this was an information need that certainly was not satisfied at the present time.

I an wondering if the conferees would care to make any expression or give any direction on proceeding to delineate the spawning and feeding areas in the lake?

MR. STEIN: If there is no comment on that, wouldn't it make sense for us to try to get the Fish and Wildlife Service to get in touch with their State counterparts and give us a report on that at the Michigan session of the conference?

MR. MAYO: All right.

MR. PURDY: Agreed.

MR. STEIN: Let's take that on.

Rheta, remind me of that, to get in touch with the Fish and Wildlife Service, because I think they are most qualified to do that.

MR. MAYO: Another point that Mr. Carr raised had to do with the opportunity for locally heavy dieoff of alewives this year. I am not sure whether it was the sense of the conferees that the individual States would proceed to handle this as State problems, depending on the severity of the dieoffs within the individual States, or whether you wish to address yourselves to the problem in the sense of the conference.

His observations were that PCF anticipates there will be locally heavy dieoffs of alewives, not nearly so severe as in 1967.

MR. PURDY: Mr. Chairman, with respect to that, I think it is quite necessary to emphasize the point that Mr. Carr did not indicate that the dieoff would be as heavy as 1967, but that there would be, say, local areas that would have a heavier dieoff than in the past two years.

We as a part of the 1968 program acquired beach cleaning equipment, and so forth. This is ready to go in operation at those points in the State where we might have problems and we are prepared to handle this on a State basis on our Lake Michigan frontage.

MR. MAYO: Can we anticipate, then, that each of the States will proceed as the problems develop?

MR. KLASSEN: Yes, Mr. Mayo. I would consider this as a State problem. If the dieoff increases, I would assume that the local and/or the State agencies would take care of the dead alewife.

And I also understand that in the consideration of the new thermal requirements that the spawning ground and the propagation of alewife were taken into account so that in effect we could protect the spawning grounds so as to make sure that there will be more alewives. Is this correct? (Laughter.)

MR. STEIN: As I understood it, they talk about sudden rises in temperature killing the alewives, and without the heat going in you won't have these sudden rises, so maybe they won't die. (Laughter.)

MR. MAYO: There was one other point that came up at Milwaukee that perhaps you will want to address yourselves to.

There was a brief discussion of the fact that the State ASCS programs are proceeding with the development of handbooks that would permit the Department of Agriculture participation in on-the-farm grants for water pollution control measures. I get the impression that the conferees had expressed some interest in this program in the context of our relative inability up to now to deal effectively with agricultural waste discharges and pollutants in terms of the Lake Michigan enforcement conference. I think this ASCS program offers the States individually and the conferees collectively an opportunity to address ourselves to a new program of on-the-farm assistance. It might be very worth our while for the States, the conferees, and State water control agencies, to examine the ASCS programs in their individual States and for us to get together sometime between now and the meeting in Michigan. At least our staff people should get together, and examine where the ASCS programs are going in the individual States and see if there is a point at which we want to try to impact this program.

If you like, the Federal Water Quality Administration can take the lead and arrange for that kind of meeting among our staff people, anticipating that in the meantime the State water pollution control agencies will take a look at the ASCS programs in their respective States and be prepared to talk about them.

Summary

MR. POOLE: Am I recollecting correctly that you had one meeting with them and I wrote you a letter suggesting that the States be included or is this meeting still pending?

MR. MAYO: There is a meeting arranged for on the 19th of May between ASCS representatives from the nine Great Lakes Basin States and our staff here in Chicago. The State people have been invited to sit in--

MR. POOLE: They have?

MR. MAYO: --on the meeting.

MR. POOLE: Good.

MR. MAYO: I think that is a little different than what I am suggesting here so far as it relates specifically to Lake Michigan.

MR. PURDY: Mr. Chairman.

MR. KLASSEN: Pardon me. Could you clarify or rationalize your statement just a little on this? Why should the agriculture industry be treated any differently than any other segment of industry?

MR. MAYO: I am not suggesting that anybody be treated any differently.

MR. KLASSEN: You are going to help

agriculture solve their problems, is that what you are saying?

MR. MAYO: What we need to be aware of is the fact that there is emerging in the Department of Agriculture an on-the-farm water pollution control grant assistance program,under which each State ASCS organization develops its individual State handbook. Now, there is an opportunity here for the water pollution control agencies to impact that handbook which identifies the eligible assistance projects. I think there is a good opportunity here for us to make an impression.

MR. KLASSEN: I just want to make one more comment. Some of you may realize that there is in our legislature now a new group of bills that will materially change the old water pollution--and air pollution too--water pollution administrative setup in Illinois, which will give the agency the authority to put a tax on the discharge of any pollutants, including agricultural pollutants.

MR. POOLE: Well, in response to your question, Mr. Mayo, I am delighted that we will have an opportunity to participate in the May 19th meeting, but if you are willing to take the lead on following through, move it forward a little farther as far as Lake Michigan is concerned, I will be quite happy to see you do so.

MR. MAYO: We will be quite pleased to do it.

MR. STEIN: Did you want to say something, Mr. Purdy?

MR. PURDY: Yes, Mr. Chairman. We have a representative of our commission or our staff attend all of the soil conservation committee meetings, the commission meetings. We have had an opportunity to impact their handbook. We have participated in the development of it. It is on Mr. Frost's desk right at the moment waiting for him to go over it and give it back over to you.

MR. MAYO: I think it would be excellent if we could have the opportunity to just share an appraisal of the success that you feel you have had and the area in which you have been able to impact the handbook. This may not be the case as far as the other States are concerned.

MR. FRANGOS: Mr. Mayo, we have done the same thing, almost the identical process as Michigan. We have participated in developing the technical criteria for this handbook, so I think we are with it. But perhaps it may be of some value to the conference if we get some kind of a summary of the activities within these four States and perhaps your agency might provide that out in your meetings with the agriculture people.

MR. STEIN: Are there any other comments?

Is there anything else? Do you have anything anyone wants to take up?

MR. PURDY: Mr. Chairman, earlier in the conference or session on the matter of temperature standards I did raise the question of some additional testimony to the conferees. One of the speakers this afternoon referred to us as lawmakers. I am not a lawmaker. I have to be guided by the laws that are on the books.

I am reasonably sure that all the States are faced with the same problem as far as setting standards. If you set a standard you must go through a public hearing and you must have something in the record to justify the standard at that point.

I am still most interested in having someone from the Federal Water Quality Administration or the Fish and Wildlife Service, someone within the Department of the Interior, that could present to the conferees the practicability and the physical and economic feasibility of complying with the temperature standards that were recommended for Lake Michigan so that we could then move forward into our public hearings and provide the base for adopting such standards.

MR. STEIN: Any other comment or question?

MR. POOLE: I think I would endorse his view.

MR. STEIN: All right. I think that is well taken and we will take that up. I think we may be able to do that at the next meeting we have, either in Chicago or in Michigan.

Are there any--

MR. KLASSEN: I have another request for a statement that was given to me by a member of our legislature.

MR. STEIN: Let's see if we have any other statements from the conferees.

Anything else to bring up?

May we have State Representative Harold Katz.

HAROLD A. KATZ
STATE REPRESENTATIVE
ILLINOIS HOUSE OF REPRESENTATIVES
CHICAGO, ILLINOIS

REP. KATZ: Thank you, gentlemen.

MR. STEIN: Please identify yourself.

REP. KATZ: Yes. I am Harold A. Katz. I am a member of the Illinois House of Representatives. I have been very interested, both as a legislator and a lawyer, in environmental problems and I have tried as a layman to gather what knowledge a layman can in terms of trying to find legal solutions to environmental problems.

I am quite aware of the needs of public power and it has seemed to me essential that we try to find a solution to the problems of public power that will not do violence to our environment.

It has seemed to me that Lake Michigan is very much in the same situation as a patient who has had repeated serious surgery, and I recently had such a situation where a doctor said that even though the operation would ordinarily not be difficult, that in the case of a patient who had had so much surgical shock that it would be dangerous to give the patient any additional because the body can stand only so much. And it has seemed to me that whatever the circumstance might be, with Lake Michigan being in the situation that it now is that it is the height of folly to permit the discharge into Lake Michigan of anything that might possibly adversely affect it.

Very briefly I wanted to say that in my search for a way of reconciling the problem of public power with the protection of the lake I have looked about for what I could find in the cooling tower field. I have found that in my view, at least, the utilities have not been adequately motivated to look about the world and try to find other places where solutions may have been found which would be helpful in our situation. And I discovered recently in my search for a dry cooling tower system, which has seemed to me quite essential, a dry system being highly desirable both from the point of view of eliminating any loss of moisture from Lake Michigan, a loss of water into the atmosphere, and also to eliminate the problems of fogging, I looked about for a practical system of a dry cooling tower. It becomes terribly important because if, in fact, such a system is obtainable, then there is in my view no justification whatever for permitting utilities to place heated water into the lake. And I discovered that there has been in operation in Rugby, England, in connection with the nuclear reactor that they have there, a dry cooling tower system in operation since 1965.

Prior to writing them, I might say that I had had some conversations with representatives of the local utility and they had indicated to me that it was absolutely not feasible to have a dry cooling tower system, and from my conversation it appeared to me as a layman and as a lawyer that they had not adequately investigated the possibility; that but for the public clamor that has resulted in the environmental field that in fact they would not be directing attention to this problem.

I wrote the chief engineer of the group in Rugby that has had a nuclear reactor in operation since 1965 with a dry cooling tower, and I would like to place into evidence here and make available to you the response that the chief engineer of that group gave to me. Now, I will point out that it is a system much smaller, its capacity is much smaller than the capacity of the system here involved. So one of the questions I directed to his attention, since I knew he had delivered some papers in Europe with reference to this subject, was whether or not it would be feasible to extrapolate the principles that they had applied in Rugby and apply them to larger installations such as those contemplated in Zion. And I have a letter here that I am going to place into evidence in which he says that, "I can say that dry cooling for such larger plant is perfectly feasible with either natural drought towers or mechanical draught towers, that is using fans," and then he says, "although the latter method would require a larger area of ground."

Now, this is a chief engineer of a project that has actually been in operation for more than five years in England. And it would seem to me that if our engineers can extrapolate the principles that are involved in small nuclear reactors to devise and utilize large nuclear reactors, they can equally extrapolate the principles involved in dry cooling towers and build cooling towers adequate to the nuclear reactors.

And so it would seem to me that it being apparently the fact that England has had in operation such a system for half a decade that we should utilize that system; that the Federal Government standard that I understand to have been proposed here would be perfectly feasible utilizing such a system; and I know of no reason why we should not do it. The only thing involved is the question of cost, and I would only say that to me the saving in money that would be occasioned, compared with the possible loss of Lake Michigan, would indeed be a foolish under-utilization of public funds at a time when the expenditure of public funds can preserve the most priceless heritage that we have in the Midwest.

I would be glad, if any of the conferees desire, to answer any questions. I am not a technical expert in the field of cooling towers, but it seems to me really quite surprising that a nontechnical expert has to go elsewhere to find this kind of information. And I would suggest that if standards such as the Federal

Government's are applied here that the States and also the utilities will then look around themselves and not require citizens or lawyers or others to have to find out this information; that then the pressure will be on and they will exercise the technical competency required to both have public power and still preserve the lake.

I would hand in to you, Mr. Chairman, if I might, sir, a copy of the letter that I have received from the chief engineer of the Rugby, England, nuclear plant plus a paper that he has presented at a meeting at the Rugby College of Engineering Technology entitled "The Rugeley Dry Cooling Tower System" and in addition to that the discussion that followed. From what I am able to discern, England and Europe are far ahead of the United States in the utilization of dry cooling towers, and I would suggest that we ought to turn to them for some of the expertise that we need in this field. It is readily available. I can add that Mr. Christopher indicated to me that he was preparing a good deal fuller paper that he would send along indicating his reasons, I gather, in greater detail as to why he says it would be feasible to have a dry cooling tower for plants such as we have in Zion. If they are feasible in Zion they would be feasible anywhere along the lake because these are among the biggest that we will have anywhere in the country. (Applause.)

So, Mr. Chairman, if you might mark these as exhibits to my testimony, I would be very appreciative.

MR. STEIN: May I see them, please?

The letter will appear in the record as if read, without objection, and the article and the discussion will appear as exhibits.

(The article and transcript referred to are marked Exhibits 1 and 2 and are on file at the FWQA Headquarters in Washington, D. C., with copies on file at the FWQA Regional Office in Chicago, Illinois.)

(Which said letter is as follows:)

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Mr. H.A. Katz,
State Representative,
House of Representatives,
7, South Dearborn Street,
CHICAGO,
Illinois,
United States Of America.

OUR REF LSTD(O)/PJC/RS.
TELEPHONE EXTENSION No.
YOUR REF

1st May 1970.

Dear Mr. Katz,

Thank you for your letter of 15th April regarding the technical feasibility and costs of dry cooling for nuclear power plant close to Lake Michigan.

A detailed answer to your enquiry is under consideration at the moment, in the meantime I can say that dry cooling for such large plant is perfectly feasible with either natural drought towers or mechanical draught towers (i.e. using fans), although the latter would require a large area of ground.

Regarding costs, they will vary appreciably according to the type of plant, the loading pattern, the local climate and the effective cost of fuel. Consequently, it is unrealistic to generalise and the nearest I would go with the present information would be to estimate a capital cost in the range of $\$\ 20\ {}^{+\,50\%}_{-\,20\%}$ ~~±25%~~ per K.W. of plant installed.

To give some more background to the subject of dry cooling, I enclose a recent paper on the plant at Rugeley which gives information on how it has behaved in service.

Yours sincerely,

FOR: P.J. Christopher,
Chief Engineer, Turbine Operation,
Operation Group.

MR. STEIN: Are there any further comments or questions?

If not, I would like to thank the conferees for participating. I would like to thank the citizens groups for coming here and bearing with us in participating, and we appreciate your advice at all times whether we are in executive session or not.

Until we see you again soon, this session is adjourned.

(Whereupon, at 3:50 o'clock, an adjournment was taken.)

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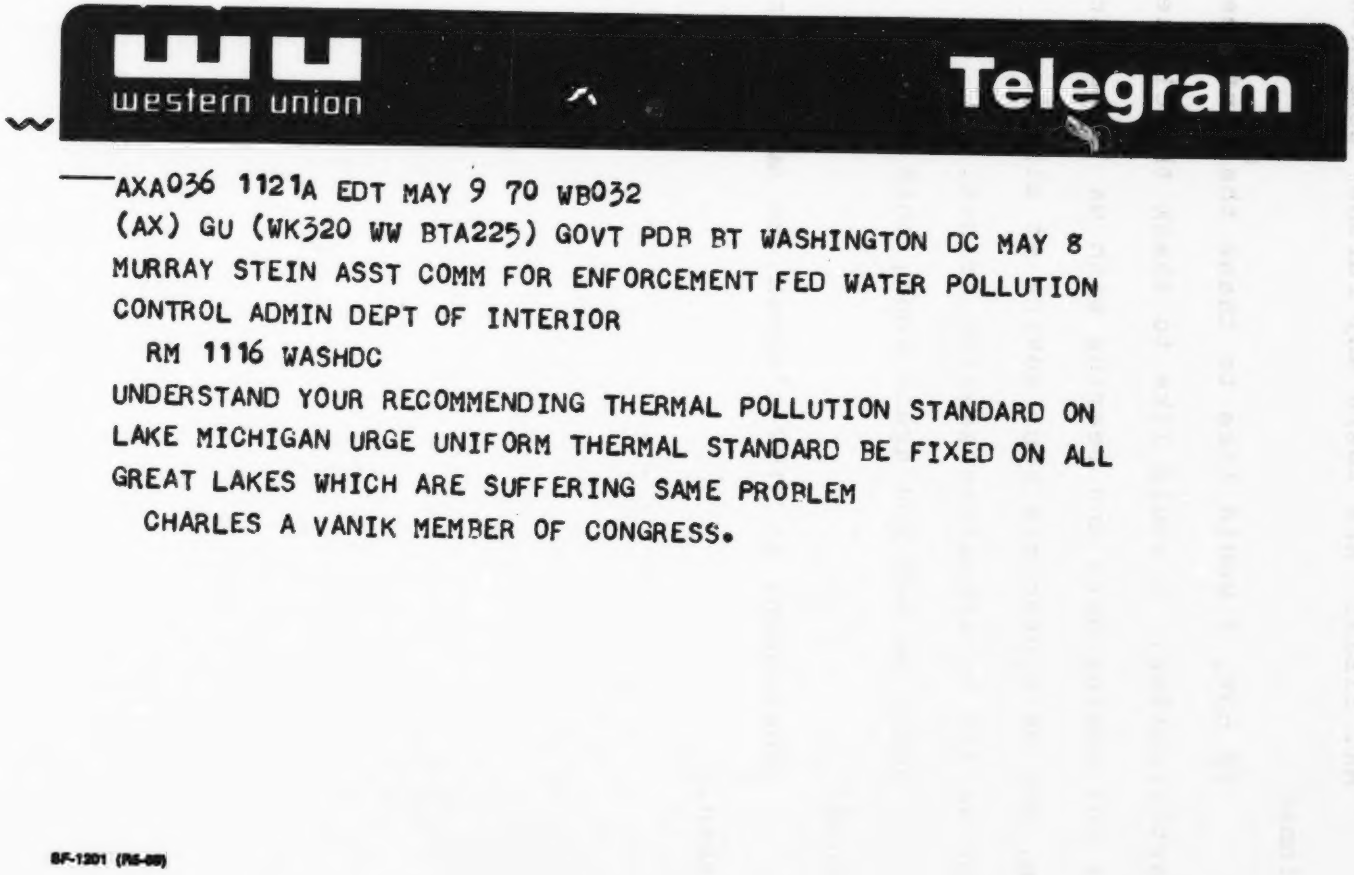

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UNDERSTAND YOUR RECOMMENDING THERMAL POLLUTION STANDARD ON LAKE MICHIGAN URGE UNIFORM THERMAL STANDARD BE FIXED ON ALL GREAT LAKES WHICH ARE SUFFERING SAME PROBLEM

CHARLES A VANIK MEMBER OF CONGRESS.

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